Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	1017	galactosyltransferase$1 or galactosyl adj transferase$1	US-PGPUB; USPAT	OR	OFF	2004/04/13 09:48
L2	6100	gb3 or cd77 or globotriaosylceramide	US-PGPUB; USPAT	OR	OFF	2004/04/13 09:49
L3	3	2 adj synthase$1	US-PGPUB; USPAT	OR	OFF	2004/04/13 09:49
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PGPUB-DOCUMENT-NUMBER: 20040063911

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TITLE: Protein remodeling methods and proteins/peptides produced by the methods

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APPL-NO: 10/ 411026

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RELATED-US-APPL-DATA:

child 10411026 A1 20030409

parent continuation-in-part-of 10360779 20030219 US PENDING

child 10360779 20030219 US

parent continuation-in-part-of 10360770 20030106 US PENDING

child 10360770 20030106 US

parent continuation-in-part-of 10287994 20021105 US PENDING

child 10287994 20021105 US

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non-provisional-of-provisional 60407527 20020828 US

non-provisional-of-provisional 60404249 20020816 US

non-provisional-of-provisional 60396594 20020717 US

non-provisional-of-provisional 60391777 20020625 US

non-provisional-of-provisional 60387292 20020607 US

non-provisional-of-provisional 60334301 20011128 US

non-provisional-of-provisional 60334233 20011128 US

non-provisional-of-provisional 60344692 20011019 US

non-provisional-of-provisional 60328523 20011010 US

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] This application is a continuation-in-part of prior Application No. PCT/US02/32263, filed Oct. 9, 2002; Provisional Patent Application No. 60/448,381, filed Feb. 19, 2003 (converted to non-provisional application,

same filing date, serial number not yet assigned); Provisional Patent Application No. 60/438,582, filed Jan. 6, 2003 (converted to non-provisional application, same filing date, serial number not yet assigned); Provisional Patent Application No. 60/407,527, filed Aug. 28, 2002; Provisional Patent Application No. 60/404,249, filed Aug. 16, 2002; Provisional Patent Application No. 60/396,594, filed Jul. 17, 2002; Provisional Patent Application No. 60/391,777, filed Jun. 25, 2002; Provisional Patent Application No. 60/387,292, filed Jun. 7, 2002; Provisional Patent Application No. 60/334,301, filed Nov. 28, 2001; Provisional Patent Application No. 60/334,233, filed Nov. 28, 2001; Provisional Patent Application No. 60/344,692, filed Oct. 19, 2001; and Provisional Patent Application No. 60/328,523, filed Oct. 10, 2001.

PGPUB-DOCUMENT-NUMBER: 20040043446

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040043446 A1

TITLE: Alpha galalctosidase a: remodeling and glycoconjugation of alpha galactosidase A

PUBLICATION-DATE: March 4, 2004

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DATE FILED: April 9, 2003

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child 10411037 A1 20030409

parent continuation-in-part-of PCT/US02/32263 20021009 US PENDING

non-provisional-of-provisional 60407527 20020828 US

non-provisional-of-provisional 60404249 20020816 US

non-provisional-of-provisional 60396594 20020717 US

non-provisional-of-provisional 60391777 20020625 US

non-provisional-of-provisional 60387292 20020607 US

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] This application is a continuation-in-part of prior Application No. PCT/US02/32263, filed Oct. 9, 2002; Provisional Patent Application No. 60/448,381, filed Feb. 19, 2003 (converted to non-provisional application, same filing date, serial number not yet assigned); Provisional Patent Application No. 60/438,582, filed Jan. 6, 2003 (converted to non-provisional application, same filing date, serial number not yet assigned); Provisional Patent Application No. 60/407,527, filed Aug. 28, 2002; Provisional Patent Application No. 60/404,249, filed Aug. 16, 2002; Provisional Patent Application No. 60/396,594, filed Jul. 17, 2002; Provisional Patent Application No. 60/391,777, filed Jun. 25, 2002; Provisional Patent Application No. 60/387,292, filed Jun. 7, 2002; Provisional Patent Application No. 60/334,301, filed Nov. 28, 2001; Provisional Patent Application No. 60/334,233, filed Nov. 28, 2001; Provisional Patent Application No. 60/344,692, filed Oct. 19, 2001; and Provisional Patent Application No. 60/328,523, filed Oct. 10, 2001.

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DOCUMENT-IDENTIFIER: US 20040038207 A1

TITLE: Gene expression in bladder tumors

PUBLICATION-DATE: February 26, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Orntoft, Torben F.	Aabyhoj		DK	

APPL-NO: 09/ 951968

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RELATED-US-APPL-DATA:

child 09951968 A1 20010914

parent division-of 09510643 20000222 US UNKNOWN

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ABSTRACT:

Methods for analyzing tumor cells, particularly bladder tumor cells employ gene expression analysis of samples. Gene expression patterns are formed and compared to reference patterns. Alternatively gene expression patterns are manipulated to exclude genes which are expressed in contaminating cell populations. Another alternative employs subtraction of the expression of genes which are expressed in contaminating cell types. These methods provide improved accuracy as well as alternative basis for analysis from diagnostic and prognostic tools currently available.

[0001] This application claims the benefit of U.S. Provisional Application No. 60/121,124, filed Feb. 22, 1999, which is hereby incorporated by reference in its entirety.

---------- KWIC ---------

Detail Description Table CWU - DETL (37):
"Subunit," Alt. Splice 4 HG1699-HT1704_s_at Epimorphin 20 20 33 20 20 20 HG172-HT3924_at Spermidine/Spermine "N1-Acetyltransferase," 20 20 20 28 29 55 Alt. Splice 2 HG1723-HT1729_at Macrophage Scavenger "Receptor," Alt. Splice 2 46 52 98 123 161 172 HG1728-HT1734_at 20 24 20 20 20 20 HG1728-HT1734_s_at Non-Specific Cross Reacting Antigen 309 291 640 367 624 456 "(Gb D90277)," Alt. Splice Form 2 HG1733-HT1748_at Moloney Murine Sarcoma Viral Oncogene Homolog 20 40 61 20 99 20 HG174-HT174_at Desmoplakin I 433 20 21 20 20 32 HG1747-HT1764_s_at Proto-Oncogene "Met," Alt. Splice Form 2 43 71 175 105 361 44 HG1751-HT1768_at 20 20 20 20 1621 241 HG1751-HT1768_s_at Chorionic Somatomamrhotropin Hormone Cs-5 20 20 20 20 20 20 HG1761-HT1778_s_at Tyrosine Kinase Far 20 20 20 20 62 20 HG1763-HT1780_s_at Prolactin-induced Protein 24

173 153 151 79 81 HG1783-HT1803_s_at Islet Amyloid Polypeptide 21 91 82 20 40
32 HG180-HT180_at Ahnak-A Nucleoprotein Ahnak-A 20 20 20 20 20 20
HG1800-HT1823_at Ribosomal Protein S20 3582 5403 5085 4741 2188 3251
HG1804-HT1829_at Ornithine Aminotransferase-Like 3 20 20 79 20 20 20
HG1827-HT1856_s_at Cytochrome "P450," Subfamily "Iic," 20 20 20 20 20 20 Alt.
Splice Form 2 HG1828-HT1857_at Nexin, Glia-Derived 22 20 44 43 67 79
HG1862-HT1897_at Calmodulin Type I 281 228 341 180 199 162 HG1869-HT1904_at
Male Enhanced Antigen 82 95 142 205 297 252 HG1872-HT1907_at Major
Histocompatibility "Complex," Dg 259 142 98 80 290 758 HG1877-HT1917_s_at
Myelin Basic "Protein," Alt. Splice Form 4 20 20 48 20 20 20 HG1879-HT1919_at
Ras-Like Protein Tc10 28 96 69 20 20 108 HG1980-HT2023_at "Tubulin," Beta 2
903 1132 2507 1529 844 1006 HG1996-HT2044_at Guanine Nucleotide-Binding
Protein "Rap2," 20 20 20 20 20 20 Ras-Oncogene Related HG2007-HT2056_s_at
Proto-Oncogene "Sno," Alt. Splice N 20 20 27 26 20 20 HG2028-HT2082_at
Laminin, A Polypeptide 85 33 35 49 73 146 HG2036-HT2090_at Stimulatory
Gdp/Gtp Exchange Protein For 100 20 20 20 334 25 C-Ki-Ras P21 And Smg P21
HG2059-HT2114_at Arrestin, Beta 2 38 78 25 21 20 50 HG2075-HT2137_s_at
Camp-Responsive Element "Modulator," Alt. 20 20 20 20 37 20 Splice 1
HG2090-HT2152_s_at External Membrane "Protein," 130 Kda 55 132 109 31 20 134
(Gb Z22971) HG210-HT210_s_at Galactokinase 2 33 83 83 72 170 99
HG2139-HT2208_f_at Beta-1-Glycoprotein "1," Pregnancy-Specific 20 20 20 20 20
20 (Gb M25384) HG2147-HT2217_at Mucin "3," Intestinal (Gb M55405) 724 1428
1745 1308 1593 684 HG2147-HT2217_r_at Mucin "3," Intestinal (Gb M55405) 20 20
50 20 1614 541 HG2148-HT2218_f_at Mucin "3," Intestinal (Gb M55406) 36 70 133
51 184 64 HG2149-HT2219_at Mucin (Gb M57417) 22 42 256 20 479 186
HG2152-HT2222_at Zinc Finger Protein 92 20 20 20 20 20 20 HG2157-HT2227_at
Mucin "4," Tracheobronchial 20 20 20 20 258 61 HG2160-HT2230_at 20 20 20 20 20
20 HG2161-HT2231_at Translocation-Associated Notch (Drosophila) 20 20 20 20
20 20 Homolog 1 HG2167-HT2237_at Protein Kinase "Ht31," Camp-Dependent 99 95
64 143 20 76 HG2171-HT2241_at 12-Lipoxygenase 20 20 20 20 20 20
HG2171-HT2241_r_at 12-Lipoxygenase 20 20 20 20 20 20 HG2175-HT2245_s_at
"Myosin," Heavy Polypeptide "10," 36 20 78 20 20 20 Non-Muscle
HG2188-HT2258_at Paired Box Hup1 (Gb X15042) 20 20 20 20 20 20
HG2190-HT2260_at Crystallin, Beta B3 (Gb X15144) 20 20 20 20 49 20
HG2191-HT2261_at Crystallin, Beta B3 (Gb X15145) 20 24 20 20 20 20
HG2197-HT2267_s_at "Collage," Type "Vii," Alpha 1 20 99 155 111 696 224
HG2228-HT2305_at Crystallin, Beta B 20 20 20 20 20 20 HG2229-HT2306_at Paired
Box Hup1 (Gb X15250) 20 20 20 20 20 20 HG2238-HT2321_s_at Nuclear Mitotic
Apparatus Protein "1," 40 31 296 436 786 256 Alt. Splice Form 2
HG2239-HT2324_at Potassium Channel Protein (Gb Z11585) 20 20 20 20 20 84
HG2239-HT2324_r_at Potassium Channel Protein (Gb Z11585) 41 20 138 93 1169 375
HG2247-HT2332_at Major Intrinsic Protein 20 20 20 20 20 20 HG2255-HT2344_f_at
Phosphoribosyl Pyrophosphate "Synthetase," 20 20 20 20 20 44 Subunit III
HG2259-HT2348_s_at "Tubulin," Alpha "1," Isoform 44 20 20 20 20 20 20
HG2260-HT2349_s_at Duchenne Muscular Dystrophy Protein (Dmd) 20 20 20 20 81 20
HG2261-HT2351_s_at "Antigen," Prostate "Specific," 20 20 20 20 55 27 Alt.
Splice Form 2 HG2261-HT2352_at Antigen, Prostate "Specific," Alt. 20 20 20 20
30 20 Splice Form 3 HG2264-HT2360_at Atpase, Ca2+ "Transporting," Plasma 180
26 20 103 400 326 Membrane "1," Alt. Splice 6 HG2271-HT2367_at 20 20 20 20
20 21 HG2271-HT2367_s_at Profilaggrin 20 20 20 20 20 20 HG2274-HT2370_at Rna
Polymerase "II," 14.5 Kda Subunit 86 98 20 51 20 90 HG2279-HT2375_at
Triosephosphate Isomerase 1112 872 1858 1837 788 910 HG2280-HT2376_at
D-Amino-Acid Oxidase 176 102 232 121 201 153 HG2290-HT2386_at Calcitonin 71 20
20 20 25 20 HG2309-HT2405_at Insulin-Like Growth Factor Ib 20 20 20 20 20 20
HG2314-HT2410_at 4-Beta-Galactosyltransferase 20 20 20 20 20 57
HG2320-HT2416_at Integrin, Beta 3 Subunit 127 100 20 59 20 34 HG2325-HT2421_at
Retinoic Acid "Receotor," Gamma 2 22 23 20 20 21 20 HG2339-HT2435_at Nuclear
Factor "1," Variant Hepatic 20 22 20 28 20 20 HG2348-HT2444_s_at Peptide Yy 20
20 137 20 20 92 HG2358-HT4858_s_at Proto-Oncogene "Ets-1," Alt. Splice 2 20 20

20 20 20 20 HG2365-HT2461_at Glyceraldehyde-3-Phosphate Dehydrogenase 20 20 20 20 31 20 (Gb K03121) HG2367-HT2463_s_at Trithorax Homolog Hrx 20 20 20 20 95 50 HG2379-HT3996_s_at Serine "Hydroxymethyltransferase," 20 20 20 20 20 20 "Cytosolic," Alt. Splice 2 HG2379-HT3997_s_at Serine "Hydroxymethyltransferase," 20 20 20 20 20 20 "Cytosolic," Alt. Splice 3 HG2380-HT2476_s_at Adp-Ribosylarginine Hydrolase 20 20 20 20 89 20 HG2383-HT4824_s_at Cystathionine Beta "Synthase," Alt. Splice 3 20 20 132 72 186 57 HG2414-HT2510_s_at Prostaglandin Receptor Ep1 Subtype 20 20 20 20 20 20 HG2415-HT2511_at Transcription Factor E2f-2 135 95 195 113 515 301 HG2416-HT2512_at Gal Beta "1,3(4)Glcnac" "Alpha2,3-Sialyl- 22 20 29 35 75 20 transferase" HG2417-HT2513_at Dynein, Heavy "Chain," Cytoplasmic 20 30 20 20 20 20 HG243-HT243_s_at Lowe Oculocerebrorenal Syndrome Protein 34 28 97 20 189 96 HG2441-HT2537_s_at Retinoblastoma "Protein," Mutated 32 39 179 59 31 53 HG2442-HT2538_at Tropomyosin, "Alpha," "Muscle," 88 31 65 22 20 20 Alt. Splice "2," Skeletal Muscle (Fibroblast) HG2460-HT2556_at Integrin Beta 1 (Gb M34189) 20 50 20 41 119 54 HG2463-HT2559_at Guanine Nucleotide-Binding Protein G25k 194 63 144 125 243 192 HG2465-HT4871_at Dna-Binding Protein "Ap-2," Alt. Splice 3 45 37 27 20 20 59 HG2479-HT2575_at 20 20 20 20 20 20 HG2479-HT2575_s_at Helix-Loop-Helix Protein Sef2-1d 20 20 20 20 20 20 HG2480-HT2576_at Fmlp-Related Receptor I 47 33 82 43 20 31 HG2492-HT2588_at Glutamate Receptor Subunit 20 20 20 20 20 20 HG2507-HT2603_at Potassium "Channel," Voltage-Gated Kcnc1 54 20 20 25 20 86 HG2510-HT2606_at Ras-Specific Guanine Nucieotide-Releasing Factor 20 20 20 20 20 20 HG2525-HT2621_at Helix-Loop-Helix Protein Delta "Max," 83 55 20 48 348 250 Alt. Splice 1 HG2530-HT2626_at Adenylyl Cyclase-Associated Protein 2 20 20 20 20 105 20 HG2538-HT2634_at Heterogeneous Nuclear Ribonucleoprotein C 20 20 20 20 20 20 HG2562-HT2658_s_at A-Myb (Gb X13294) 20 20 20 83 20 20 HG2564-HT2660_s_at Gamma-Aminobutyric Acid (Gaba) A "Receptor," 20 20 21 22 20 20 Alpha Subunit HG2566-HT4792_r_at Microtubule-Associated Protein "Tau," Alt. 20 20 20 20 20 20 Spjice "3," Exon 8 HG2566-HT4867_at Microtubule-Associated Protein "Tau," Alt. 286 307 356 174 409 491 Splice "5," Exon 4a HG2573-HT2669_at Zinc Finger Protein Kup (Gb X16576) 20 20 20 20 67 20 HG2591-HT2687_s_at Transcription Factor Itf-1 20 20 20 20 20 20 HG25930-HT26386_at 20 20 20 20 127 26 HG2600-HT2696_at Guanine Nucleotide-Binding Protein "Rap2b," 20 20 20 20 20 20 Ras-Oncogene Related HG2602-HT2698_at Succinate "Dehydrogenase," Flavoprotein 20 20 48 20 163 20 Subunit HG2604-HT2700_at Pan-2 20 20 20 20 20 20 HG2614-HT2710_at Collagen, Type "VIII," Alpha 1 136 143 68 95 118 36 HG2639-HT2735_s_at Single-Stranded Dna-Binding Protein Mssp-1 110 67 219 183 226 158 HG2649-HT2745_s_at Serine/Threonine Protein Kinase Cdk3 20 20 20 20 20 33 HG2662-HT2758_at Homeotic Protein Emx1 20 20 20 20 20 20 HG2663-HT2759_at Homeotic Protein Emx2 20 20 20 20 20 20 HG2668-HT2764_at Bradykinin Receptor 97 46 28 25 34 209 HG2686-HT2782_at Ryanodine Receptor 3 20 20 20 20 20 20 HG2689-HT2785_at Mucin "5b," Tracheobronchial (Gb X74955) 67 113 26 63 176 117 HG270-HT270_at Lymphocyte Chemoattractant Factor 20 20 20 20 20 20 HG2702-HT2798_r_at Serine/Threonine Kinase (Gb Z25424) 20 20 20 20 20 250 HG2705-HT2801_s_at Serine/Threonine Kinase (Gb Z25427) 90 360 467 231 186 35 HG2706-HT2802_at Serine/Threonine Kinase (Gb Z25428) 20 20 20 20 151 20 HG2707-HT2803_at Serine/Threonine Kinase (Gb Z25429) 20 20 20 20 20 20 HG2709-HT2805_at Serine/Threonine Kinase (Gb Z25431) 20 29 20 21 70 20 HG2714-HT2810_at Tyrosine Kinase (Gb Z25436) 20 20 20 20 20 20 HG2715-HT2811_at Tyrosine Kinase (Gb Z25437) 24 20 30 23 20 117 HG2723-HT2819_at Proto-Oncogene N-Cym 20 20 20 20 20 20 HG2724-HT2820_at Oncogene "Tis/Chop," Fusion Activated 20 20 20 20 20 20 HG273-HT273_at 20 20 20 20 91 20 HG273-HT273_s_at Lymphocyte Antigen Hla-G3 113 115 470 329 154 71 HG2730-HT2827_s_at "Fibrinogen," A Alpha "Polypeptide," 27 76 21 42 452 43 Alt. Splice "2," E HG2730-HT2828_s_at "Fibrinogen," A Alpna "Polypeptide," 20 20 20 20 20 25 Alt. Splice "3," E HG274-HT274_s_at Gamma-Glutamyltransferase 1 (Gb J04131) 20 92 65 99 268 189 HG2743-HT2845_at Caldesmon "1," Alt. Splice "3," 95 20 20 20 20 24 Non-Muscle

HG2743-HT2846_s_at Caidesmon "1," Alt. Splice "4," 113 123 20 20 20 51 Non-Muscle HG2743-HT3926_s_at Caldesmon "1," Alt. Splice "6," 44 37 20 20 31 20 Non-Muscle HG2755-HT2862_at T-Plastin 90 27 50 80 55 83 HG2788-HT2896_at Calcyclin 973 3126 4602 3790 3984 1515

Detail Description Table CWU - DETL (63):
"mRNA," complete cds 47 20 20 84 52 28 M34079_at Human immunodeficiency virus tat 280 227 251 308 236 354 transactivator binding protein-1 (tbp-1) "mRNA," complete cds M34175_at Human beta adaptin "mRNA," complete 144 110 253 143 145 164 cds M34181_at Human testis-specific cAMP-dependent 20 20 43 22 20 20 protein kinase catalytic subunit (C-beta isoform) "mRNA," complete cds M34182_at Human testis-specific frotein kinase 924 772 1027 722 1221 1193 gamma-subunlt "mRNA," complete cds M34192_at Human isovaleryl-coA dehydrogenase 30 158 104 98 303 275 (IVD) "mRNA," complete cds M34276_at Human plasminogen gene 37 64 100 110 177 104 M34309_at Human epidermal growth factor receptor 82 20 243 179 51 20 (HER3) "mRNA," complete cds M34338_at Human spermidine synthase "mRNA," 42 33 63 78 20 84 complete cds M34344_at Human platelet glycoprotein IIb (GPIIb) 91 129 20 58 107 94 gene M34353_s_at Human transmembrane tyrosine-specific 57 85 107 56 283 46 protein kinase (ROS1) "mRNA," complete cds M34376_s_at Homo sapiens (clone lambda MSP131) beta- 20 26 37 280 20 29 microseminoprotein (MSP) gene M34423_at Human beta-galactosidase (GLB1) "mRNA," 54 149 308 247 94 20 complete cds M34455_at Human interferon-gamma-inducible 134 142 217 164 108 115 indoleamine "2,3-dioxygenase" (IDO) "mRNA," complete cds M34458_rna1_s_at Human lamin B "mRNA" complete cds 20 52 55 37 98 42 M34516_at Human omega light chain protein 14 1 2235 2613 731 419 20 6258 (Ig lambda chain related) gene M345 6_r_at Human omega light chain protein 14 1 1059 1747 485 299 778 3381 (Ig lambda chain related) gene M345 9_at Human FK506-binding protein (FKBP) 152 48 141 284 20 392 "mRNA," complete cds M346 7_at Human phospholipase C-gamma "mRNA," 20 73 56 97 108 85 complete cds M346 8_at Human protein tyrosine phosphatase 77 20 124 89 20 44 (PTPase-alpha) mRNA M34677_at Human nested gene protein "gene," 20 20 20 20 20 20 complete cds M34715_at Human pregnancy-specific beta-1- 20 80 64 39 99 32 glycoprotein mRNA "PSG95," complete cds M34996_s_at Human MHC cell surface glycoprotein 232 184 75 57 110 430 (HLA-DQA) "mRNA," 3'end M35093_s_at Human secreted epithelial tumor mucin 20 20 20 20 20 20 antigen (MUC1) "gene," complete cds M35128_at Human muscarinic acetylcholine receptor 42 203 43 255 324 234 "gene," complete cds M35198_at Human Integrin B-6 "mRNA," complete 36 20 20 118 20 20 cds M35252_at Human CO-029 20 20 74 198 99 46 M35296_at Human tyrosine kinase arg gene mRNA 165 88 135 149 381 223 M35416_at Human GTP-binding protein (RALB) "mRNA," 122 23 56 20 72 126 complete cds M35531_at Human GDP-L-fucose beta-D-galactoside 20 20 81 117 166 80 2-alpha-1-fucosyltransfera- se "mRNA," complete cds M35851_s_at Human androgen receptor gene 20 20 20 20 20 20 M35878_at Human insulin-like growth factor-binding 255 577 3521 1809 2510 1317 protein-3 "gene," complete "cds," clone HL1006d M35999_at Human platelet glycoprotein IIIa 20 20 20 20 20 20 (GPIIIa) "mRNA," complete cds M36067_at Human DNA ligase I "mRNA," complete 20 20 20 20 104 20 cds M36072_at Human ribosomal protein L7a (surf 3) 2150 3875 4953 4145 1479 1748 large subunit "mRNA," complete cds M36089_at Human DNA-repair protein (XRCC1) 99 161 232 107 350 293 "mRNA," complete cds M36118_s_at Human cytotoxin serine protease-C 20 20 31 20 20 93 "mRNA," complete cds M36200_a_ Human synaptobrevin 1 (SYB1) gene 53 166 100 43 66 142 M36205_at Human synaptobrevin 2 (SYB2) gene 22 20 20 20 20 20 M36284_s_atstart Human glycophorin C "mRNA," complete 59 104 20 20 20 20 cds M36341_at Human ADP-ribosylation factor 4 (ARF4) 225 20 193 212 198 59 "mRNA," complete cds M36429_s_at Human transducin beta-2 subunit "mRNA," 911 201 20 180 107 265 complete cds M36430_s_at Human transducin beta-1 subunit "mRNA," 20 20 20 20 20 20 3' end M36542_s_at Human lymphoid-specific transcription 63 20 263 208 20 20 factor "mRNA," complete cds M36634_at Human vasoactive intestinal peptide 20 20 20 20 20 20 (VIP)

"mRNA," complete cds M36653_s_at Human 2-Oct (actor "mRNA," complete cds 20 20 20 20 20 20 M36803_at Human hemopexin gene 20 20 20 275 265 581 M37033_at Human CD53 glycoprotein "mRNA," 20 393 20 20 20 20 complete cds M37075_at Human embryonic/atrial myosin light 20 20 20 20 20 20 chain (MLC-1-emb/A isoform) gene M37104_at Human mitochondrial ATPase coupling 338 111 241 175 188 144 factor 6 subunit (ATP5A) "mRNA," complete cds M37190_at Human ras inhibitor "mRNA," 3' end 50 20 20 20 20 20 M37197_at Human CCAAT-box-binding factor (CBF) 82 66 115 83 20 67 'mRNA," complete cds M37238_s_at Human phosphohpase C "mRNA," complete cds 33 57 20 144 20 20 M37245_at Human Ig superfamily cytotoxic T- 46 4 101 41 20 316 lymphocyte-associated protein (CTLA-4) gene M37271_s_at Human CD7 antigen "gene," exons 4-Jan 20 20 20 20 20 20 M37400_at Human cytosolic aspartate 35 20 201 20 20 20 aminotransferase "mRNA," M37435_at Human macrophage specific colony- 20 181 20 152 20 20 stimulating factor (CSF-I) "mRNA," complete cds M37457_at 168 257 323 190 20 134 M37457_s_at Human "Na+, K+" #NAME? catalytic 20 20 20 20 20 20 subunit alpha-III isoform gene M37485_cds1_at IGH@ gene (Ig Dxp heavy-chain gene) 20 20 20 20 20 29 extracted from Human Ig germline H-chain D-region Dxp1 and Dxp1 "genes," 3' end M37583_at Human histone (H2A Z) "mRNA," complete 288 108 359 240 20 20 cds M37712_at Human p58/GTA (galactosyltransferase 20 20 29 25 20 20 associated protein kinase) "mRNA," complete cds M37721_at Human peptidylglycine alpha-amidating 122 84 96 4 265 24 monooxygenase "mRNA," complete cds M37755_f_at Human pregnancy-specific beta-1- 3 20 20 20 20 142 glycoprotein gene PSGGA M37763_at Human neurotrophin-3 (NT-3) "gene," 31 20 36 4549 20 20 complete cds M37766_at Human MEM-102 glycoprotein "mRNA," 69 302 4820 20 78 229 complete cds M37815_cds1_at Human T-cell membrane glycoprotein 20 54 20 48 212 172 CD28 mRNA, exon 4 M37825_at Human fibroblast growth factor-5 70 20 36 67 224 120 (FGF-5) "mRNA," complete cds M37981_at Human alpha-3 neuronal nicotinic 20 31 20 237 20 20 acetylcholine receptor subunit "mRNA," complete cds M37984_rna1_at Human slow twitch skeletal 20 20 22 20 20 20 muscle/cardiac muscle troponin C gene, complete cds M38160_rna1_at Human 3-beta-hydroxysteroid 20 20 20 20 17 6 dehydrogenase/delta-5-delta-4-isomerase (3-beta-HSD) "gene," complete cds M38258_at Human retinoic acid receptor gamma 1 20 20 20 69 20 20 "mRNA," complete cds M38449_s_at Human transforming growth (actor-beta 101 33 20 242 159 191 "mRNA," complete "cds," clone pTGF-beta- trpt 14 M38591_at Homo sapiens cellular ligand of annexin 1819 75 90 228 20 230 II (p11) "mRNA," complete cds M38690_at Human CD9 antigen "mRNA," complete cds 1172 30 1654 1216 189 264 M54914_s_at Human follicle-stimulating hormone 20 24 20 20 20 20 beta-subunit gene M54915_s_at Human h-pim-1 protein (h-pim-1) 500 154 436 506 184 169 "mRNA," complete cds M54927_at Human myelin proteolipid protein 33 20 20 20 20 18 "mRNA," complete cds M54951_at Human atrial natriuretic factor gene 62 20 20 20 20 60 M54968_at Human K-ras oncogene protein "mRNA," 20 35 20 20 41 20 complete cds M54992_at Human B cell differentiation antigen 70 20 22 20 20 20 "mRNA," complete cds M54995_at Human connective tissue activation 20 99 58 31 72 93 peptide III "mRNA," complete cds M55024_s_at Human cell surface glycoprotein P3.58 20 20 20 20 20 21 "mRNA," partial cds /gb = M55024 /ntype = RNA M55040_at Human acetylcholinesterase (ACHE) 225 208 115 280 286 656 "mRNA," complete cds M55047_at Human synaptotagmin "mRNA," complete 35 20 56 77 55 128 cds M55067_at Human 47-kD autosomal chronic 174 137 91 137 171 20 granulomatous disease protein "mRNA,"

Detail Description Table CWU - DETL (78):
complete cds U09477_at Human clone 53BP1 p53-binding protein "mRNA," 89 99 127 991 1291 192 partial cds U09510_s_at Human glycyl-tRNA synthetase "mRNA," 138 121 197 151 210 111 complete cds U09550_at Human oviductal glycoprotein "mRNA," 20 20 20 29 38 20 complete cds U09564_at Human serine kinase "mRNA," 20 20 247 104 132 43 complete cds U09578_at Human MAPKAP kinase (3pK) "mRNA," 20 20 20 20 20 25 complete cds U09579_at Human melanoma

differentiation associated (mda-6) 242 61 20 203 315 131 "mRNA," complete cds U09584_at Human PL6 protein (PL6) "mRNA," complete cds 136 130 83 104 40 20 U09587_at 144 178 135 163 50 210 U09607_at Human JAK family protein tyrosine kinase (JAK3) 68 85 20 86 320 321 "mRNA," complete cds U09609_at Human p80HT (p80HT/NKFB-2) "mRNA," 20 42 88 20 20 71 complete cds U09646_at Human carnitine palmitoyltransferase II precursor 20 20 20 20 29 20 (CPT1) gene U09716_s_at Human mannose-specific lectin (MR60) "mRNA," 20 25 154 62 115 69 complete cds U09759_at Human protein kinase (JNK2) "mRNA," 23 20 33 20 727 20 complete cds U09770_at Human cysteine-rich heart protein (hCRHP) "mRNA," 114 150 64 173 20 255 complete cds U09813_at Human mitochondrial ATP synthase subunit 715 434 1114 771 138 403 "9," P3 gene "copy," "mRNA," nuclear gene encoding mitochondrial "protein" complete cds U09820_at 25 36 111 51 224 82 U09825_at Human acid finger protein "mRNA," 85 52 204 164 20 197 complete cds U09848_at Human zinc finger protein (ZNF139) "mRNA," 39 147 169 35 160 26 partial cds U09850_at Human zinc finger protein (ZNF143) "mRNA;" 20 44 20 20 114 170 complete cds U09851_s_at Human zinc finger protein (ZNF148) "mRNA," 20 23 67 45 20 20 partial cds U09860_at Human enterokinase "mRNA," complete cds 20 20 40 42 36 94 U09877_at Human helicase-like protein (HLP) "mRNA," 20 20 20 20 20 20 complete cds U09937_ma1_s_at urokinase-type plasminogen activator receptor 20 40 82 124 33 136 gene extracted from Human urokinase-type plasminogen receptor U09953_at Human ribosomal protein L9 "mRNA," 2506 2871 3863 2285 930 959 complete cds U10099_s_at Human POM-ZP3 "mRNA," complete cds 20 20 20 20 20 20 U10117_at Human endothelial-monocyte activating polypeptide 70 20 116 39 20 20 II "mRNA," complete cds U10323_at Human nuclear factor NF45 "mRNA," 172 254 655 456 263 685 complete cds U10324_at Human nuclear factor NF90 "mRNA," 20 20 20 20 20 20 complete cds U10362_at Human GP38b glcoprotein "mRNA," 65 20 20 35 20 20 complete cds U10439_at Human double-stranded RNA adenosine deaminase 116 154 163 234 221 251 "mRNA," complete cds U10473_s_at Human clone p4betaGT/3 "beta-1,4- 42 35 20 38 20 31 galactosyltransferase" "mRNA," partial cds /gb = U10473 /ntype = RNA U10485_at Human lymphoid-restricted membrane protein (Jaw1) 47 20 75 116 20 229 "mRNA," complete cds U10492_at Human Mox1 protein (MOX1) "mRNA," 156 153 74 79 20 125 complete cds U10550_at Human Gem GTPase (gem) "mRNA," 129 24 87 20 116 24 complete cds U10685_at Human MAGE-10 antigen (MAGE10) "gene," 20 25 99 63 178 93 complete cds U10686_at Human MAGE-11 antigen (MAGE11) "gene," 132 125 277 102 231 231 complete cds U10687_s_at Human MAGE-4a antigen (MAGE4a) "gene," 20 20 20 20 20 71 complete cds U10689_f_at Human MAGE-5a antigen (MAGE5a) "gene," 20 20 58 20 412 29 complete cds U10690_f_at Human MAGE-5b antigen (MAGE5b) "gene," 20 20 26 20 215 20 complete cds U10693_at Human MAGE-8 antigen (MAGE8) "gene," 35 20 20 20 104 70 complete cds U10868_at Human aldehyde dehydrogenase ALDH7 "mRNA," 77 144 122 105 65 61 complete cds U10886_at Human density enhanced phosphatase-1 "mRNA," 20 20 37 20 20 20 complete cds U10991_at Human G2 protein "mRNA," partial cds 30 59 57 38 236 81 U11036_at Human lbd1 "mRNA," partial cds /gb = 20 20 20 20 20 20 U11036 /ntype = RNA U11037_at Human Sel-1 like "mRNA," complete cds 26 20 20 45 266 20 U11090_at Human hydroxyindole-O-methyltransferase promoter 63 32 107 38 52 266 A-derived (HIOMT) "mRNA," complete cds U11287_at Human N-methyl-D-aspartate receptor subunit NR3 20 20 20 20 20 20 (hNR3) "mRNA," complete cds U11292_at Human Ki nuclear autoantigen "mRNA," 137 127 259 201 366 407 complete cds U11313_at Human sterol carrier protein-X/sterol carrier 20 20 64 49 20 83 protein-2 (SCP-X/SCP-2) "gene," promoter and U11690_at Human faciogenital dysplasia (FGD1) 74 68 20 20 20 85 "mRNA," complete cds U11701_at Human LIM-homeobox domain protein (hLH-2) 20 20 20 20 20 20 "mRNA," complete cds U11717_s_at Human calcium activated potassium channel 20 20 20 20 20 20 (hslo) "mRNA," complete cds U11732_at Humari ets-like gene (te1) "mRNA," 66 20 20 75 66 24 complete cds U11791_at Human cyclin H "mRNA," complete cds 85 20 20 81 70 193 U11821_s_at Human Fas ligand (FasL) "mRNA," 20 20 20 20 20 20 complete cds U11861_at Human G10 homolog (edg-2) "mRNA," 432 536 525 431 585 462 complete cds U11862_s_at Human clone HP-DA01 diamine

"oxidase," 20 20 20 20 250 20 copper/topa quinone-containing "mRNA," complete cds U11863_at Human clone HP-DA02 diamine "oxidase," 20 20 20 20 20 20 copper/topa quinone containing "mRNA," complete cds U11870_ma1_at Human interleukin-8 receptor type A (IL8RBA) gene, 20 22 20 48 20 67 promoter and complete cds U11872_at Human interleukin-8 receptor type B (IL8RB) 20 71 53 49 135 105 "mRNA," splice variant "IL8RB1," partial cds /gb = U11872 /ntype = RNA U11875_s_at Human interleukin-8 receptor type B (IL8RB) 56 39 136 29 275 140 "mRNA," splice variant "IL8RB4," partial cds /gb = U11875 /ntype = RNA U11877_at Human interleukin-8 receptor type B (IL8RB) 51 60 20 20 177 20 "mRNA," splice variant "IL8RB9," partial cds /gb = U11877 /ntype = RNA U11878_at Human interleukin-8 receptor type B (IL8RB) 20 20 20 20 20 86 "mRNA," splice variant "IL8RB10," partial cds /gb = U11878 /ntype = RNA U12139_at Human alpha1(XI) collagen (COL11A1) "gene," 261 243 20 169 548 20 5' region and exon 1 /gb = U12139 /ntype = DNA /annot = exon U12140_at Human tyrosine kinase receptor p145TRK-B (TRK-B) 21 20 84 52 106 66 "mRNA," complete cds U12255_at Human IgG Fc receptor hFcRn "mRNA," 195 195 332 133 321 261 complete cds U12259_cds2_s_at Human paired box homeotic protein (PAX3) gene 20 20 20 20 283 24 U12387_s_at Human thiopurine methyltransferase (TPMT) "mRNA," 25 22 70 27 20 129 complete cds U12404_at Human Csa-19 "mRNA," complete cds 2522 2665 5158 3551 551 932 U12424_s_at Human mitochondrial glycerol-3-phosphate 20 23 20 20 20 20 dehydrogenase "mRNA," complete cds U12465_at Human ribosomal protein L35 "mRNA," 3327 4503 3996 2911 1024 2021 complete cds U12471_cds1_at Human thrombospondin-1 gene, partial cds. 70 75 20 61 156 135 U12535_at Human epidermal growth factor receptor kinase 20 50 62 65 89 84 substrate (Eps8) "mRNA," complete cds U12595_at Human tumor necrosis factor type 1 receptor 41 20 47 23 20 20 associated protein (TRAP1) "mRNA," partial cds U12622_at Human beaded intermediate filament protein 71 107 107 117 242 148 CP115 "mRNA," partial cds /gb = U12622 /ntype = RNA U12707_s_at Human Wiskott-Aldrich syndrome protein (WASP) 20 20 20 20 20 20 "mRNA," complete cds U12767_at Human mitogen induced nuclear orphan receptor 154 20 20 20 20 20 (MINOR) "mRNA," complete cds U12775_at Human agouti gene 35 20 20 20 20 20 U12778_at Human acyl-CoA dehydrogenase "mRNA," 20 20 20 20 20 45 complete cds U12779_at Human MAP kinase activated protein kinase 2 "mRNA," 434 367 50 345 962 756 complete cds U12897_at Human non-translated mRNA sequence 20 20 20 20 185 20 U12978_at Human sperm membrane protein BS-84 (HSD-1) 20 127 20 20 89 64 "mRNA," partial cds U13021_s_at Human positive regulator of programmed cell death 20 20 20 20 20 20 ICH-1L (Ich-1) "mRNA," complete cds U13022_at Human negative regulator of programmed cell death 26 84 75 112 109 33

Detail Description Table CWU - DETL (83):

U30872_at Human mitosin "mRNA," complete cds 20 20 40 66 20 20 U30888_at Human tRNA-guanine transglycosylase "mRNA," 138 266 128 23 193 221 complete cds U30894_at Human N-sulphoglucosamine sulphohydrolase 20 145 164 167 317 390 "mRNA," complete cds U30930_at Human UDP-Galactose ceramide galactosyl transferase 45 75 28 45 59 147 (CGT) "mRNA," complete cds U30908_at Human (nmd) "mRNA," 3'UTR. 20 20 57 20 142 153 /gb = U30998 /ntype = RNA U30909_at Human (memc) "mRNA," 3'UTR. 44 146 113 80 162 133 /gb = U30999 /ntype = RNA U31020_at Human DP prostanoid receptor (PTGDR) mRNA, 20 20 20 20 20 20 partial cds U31103_at Human beta-sarcoglycan A3b "mRNA," 21 67 20 20 20 20 complete cds U31120_ma1_at Human interleukin-13 (IL-13) precursor gene, 82 155 20 173 438 309 complete cds U31176_at Human hERV1 "mRNA," complete cds 79 163 26 130 259 279 U31201_cds1_at Human laminin gamma2 chain gene (LAMC2), exon 23 20 20 20 20 44 22 and flanking sequences, and complete cds U31201_cds2_s_at Human laminin gamma2 chain gene (LAMC2) 20 20 20 20 20 20 U31215_s_at Human metabotropic glutamate receptor 1 alpha 20 20 20 20 317 20 (mGluR1alpha) "mRNA," complete cds U31216_s_at Human metabotropic glutamate receptor 1 beta 20 20 20 20 20 20 (mGluR1beta) "mRNA," complete cds U31248_at Human zinc finger protein (ZNF174) "mRNA," 63 38 40 65 367 123

complete cds U31342_at Human nucleobindin gene 171 292 141 186 529 327 U31382_at Human G protein gamma-4 subunit "mRNA," 114 20 26 102 163 111 complete cds U31384_at Human G protein gamma-11 subunit "mRNA," 139 161 25 59 138 81 complete cds U31449_at Human intestinal and liver tetraspan membrane 20 20 20 20 20 20 protein (II-TMP) "mRNA," complete cds U31501_at Human fragile X mental retardation syndrome related 147 217 20 129 182 406 protein (FXR2) "mRNA," complete cds U31556_at Human transcription factor E2F-S "mRNA," 21 20 67 68 93 37 complete cds U31628_at Human interleukin-15 receptor alpha chain precursor 93 20 20 133 294 288 (IL15RA) "mRNA," complete cds U31799_at Human melanocyte protein Pmel 17 gene 20 20 20 20 101 60 U31814_at Human transcriptional regulator homolog RPD3 42 113 164 110 20 21 "mRNA," complete cds U31875_at Human Hep27 protein mRNA complete cds. 126 1358 2242 1444 822 1012 U31903_s_at Human CREB-RP (creb-rp) "mRNA," 97 144 311 176 610 209 complete cds U31929_s_at Human orphan nuclear receptor (DAX1) "gene," 67 117 149 66 368 135 complete cds U31930_at Human deoxyuridine nudeotidohydrolase "mRNA," 57 164 161 177 155 68 complete cds U31973_s_at Human phosphodiesterase A' subunit (PDE6C) 20 20 20 20 128 20 "mRNA," complete cds U31986_at Human cartilage-specific homeodomain protein Cart-1 63 119 139 29 145 248 "mRNA," complete cds U32114_at Human caveolin-2 "mRNA," complete cds 49 20 31 11 163 37 U32315_at Human syntaxin 3 "mRNA," complete cds 43 20 36 55 80 82 U32324_at Human interleukin-11 receptor alpha chain 69 20 63 20 76 20 "mRNA," complete cds U32331_at Human RIG "mRNA," complete sequence 47 22 20 20 20 20 U32376_at 'Human channel associated protein of synapse 20 33 20 20 20 20 (chapsyn-110) "mRNA," complete cds U32439_at Human regulator of G-protein signaling similarity 22 20 20 20 191 102 (RGS7) "mRNA," partial cds U32499_s_at Human d3 dopamine receptor "mRNA," 20 20 20 20 20 20 complete cds U32519_at Human GAP SH3 binding protein "mRNA," 93 79 80 87 160 211 complete cds U32576_ma1_at Human apolipoprotein apoC-IV (APOC4) gene, 20 20 20 24 20 20 complete cds U32581_at Human lambda/iota-protein kinase C-interacting 20 20 20 20 20 20 protein "mRNA," complete cds U32645_at Human myeloid elf-1 like factor (MEF) "mRNA," 20 20 20 20 188 20 complete cds U32659_at Human IL-17 "mRNA," complete cds 20 26 20 27 127 31 U32674_s_at Human orphan receptor GPR9 (GPR9) "gene," 20 77 92 20 329 151 partial cds U32680_at Human CLN3 "mRNA," complete cds 20 49 20 99 302 135 U32849_at Human Hou "mRNA," complete cds 39 20 29 23 20 49 U32907_at Human p37NB "mRNA," complete cds 20 20 20 20 20 20 U32944_at Human cytoplasmic dynein light chain 1 (hdlc1) 743 290 526 524 20 189 "mRNA," complete cds U32986_s_at Human xeroderma pigmentosum group E UV-damaged DNA b 110 218 398 231 20 90 inding factor "mRNA," complete cds U32989_at Human tryptophan oxygenase (DOO) "mRNA," 20 20 20 20 20 20 complete cds U33017_at Human signaling lymphocytic activation molecule 20 20 20 20 20 112 (SLAM) "mRNA," complete cds U33052_s_at Human "lipid-activated," protein kinase 59 41 190 117 169 95 PRK2 "mRNA," complete cds U33053_at Human lipid-activated protein kinase PRK1 54 57 20 78 20 209 "mRNA," complete cds U33054_at Human G protein-coupled receptor kinase GRK4 20 20 20 20 20 20 "mRNA," a;pha splice "variant," complete cds U33147_at Human mammaglobin "mRNA," complete cds 20 20 28 20 20 151 U33202_s_at Human mdm2-D (mdm2) "mRNA," complete cds. 20 20 34 21 20 35 /gb = U33202 /ntype = RNA U33203_s_at Human mdm2-E (mdm2) "mRNA," compute cds. 20 20 20 20 20 20 /gb = U33203 /ntype = RNA U33267_at Human glycine receptor beta subunit (GLRB) 21 57 20 20 34 36 "mRNA," complete cds U33286_at Human chromosome segregation gene homolog GAS 68 83 194 85 99 155 "mRNA," complete cds U33317_ma1_at Human defensin 6 (HD-6) gene, complete cds 23 46 20 20 178 64 U33428_at human K+ channel beta 2 subunit "mRNA," 20 20 20 46 48 39 complete cds U33447_at Human putative G-protein-coupled receptor (GPR17) 20 20 20 20 20 20 "gene," complete cds U33448_s_at Human putative G-protein-coupled receptor (GPR16) 20 20 20 20 20 20 "gene," complete cds U33632_at Human two P-domain K+ channel TWIK-1 52 53 114 71 57 64 "mRNA," complete cds U33761_at Human cyclin A/CDK2-associated p45 (Skp2) 20 20 20 20 168 81 "mRNA," complete cds U33818_at Human inducible poly(A)binding protein

"mRNA," 77 38 381 257 255 212 complete cds U33821_at Human tax1-binding, protein TXBP151 "mRNA," 346 336 367 268 294 319 complete cds U33822_at Human tax1-binding protein TXBP181 "mRNA," 20 20 20 20 20 20 complete cds U33837_at Human glycoprotein receptor gp330 "precursor," 20 20 20 20 20 20 "mRNA," complete cds U33838_at Human NF-kappa-B p65delta3 "mRNA," spliced 57 20 20 20 478 20 transcript lacking exons 6 and "7," partial cds /gb = U33838 /ntype = RNA U33838_s_at Human ataxia telangiectasia (ATM) "mRNA," 20 20 20 30 154 24 complete cds U33839_at Human potassium channel "mRNA," complete cds. 20 20 55 20 20 71 /gb = U33839 /ntype = RNA U33841_at Human beta 1 integrin isoform D (ITGB1) "gene," 20 20 20 20 136 20 partial cds. /gb = U33880 /ntype = DNA /annot = exon U33649_at Human lymphoma proprotein convertase (LPC) 20 20 20 79 50 20 "mRNA," complete cds U33880_at Human adenosine kinase "mRNA," complete 20 32 20 20 20 20 cds /gb = U33936 /ntype = RNA U33920_at Human clone lambda 5 semaphorin "mRNA," 79 155 41 166 836 514 complete cds U33921_at HSU33921 Homo sapiens cDNA 20 94 20 36 20 35 U33936_s_at Human CCAAT/enhancer binding protein alpha 66 29 20 68 20 20 "gene," complete cds U34038_at Human proteinase-activated receptor-2 "mRNA," 68 65 29 63 25 47 complete cds U34044_at Human selenium donor protein (selD) "mRNA," 54 77 100 73 20 87 complete cds U34040_s_at Human nonmuscle myosin heavy chain IIB 20 20 20 20 20 20 "gene," promoter region and exon 1 /gb = U34301 /ntype = DNA /annot = mRNA U34242_at Human gamma-aminobutyraldehyde dehydrogenase 113 148 130 49 20 43 "mRNA," complete cds U34341_at 20 20 20 20 20 20 U34341_r_at Human nonmuscle myosin heavy chain IIB 20 20 20 20 220 84 "gene," promoter region and exon 1 /gb = U34301 /ntype = DNA /annot = mRNA U34343_at Human 13 kD differentiation-associated protein 135 152 398 223 235 230 "mRNA," partial cds. /gb = U34343 /ntype = RNA U34360_at Human lymphoid nuclear protein (LAF-4) 20 20 20 20 20 20 "mRNA," complete cds U34380_ma1_s_at TEC gene extracted from Human protein tyrosine 20 20 20

Detail Description Table CWU - DETL (101):

X13889_at Human mRNA for vascular smooth muscle alpha-actin 1405 801 20 20 43 20 X13916_at Human mRNA for LDL-receptor related protein 29 38 35 57 20 20 X13930_f_at Human CYP2A4 mRNA tor P-450 IIA4 protein 94 113 253 127 204 158 X13955_s_at Human mRNA for myosm alkali light chain 20 20 20 20 20 20 X13956_at Human 12 S RNA induced by "poly(rl)," poly(rC) 26 67 104 41 55 119 and Newcastle disease virus X13967_at Human mRNA for leukaemia inhibitory factor (LIF/HILDA) 145 80 94 62 268 236 X13973_at Human mRNA for ribonuclease/anglojenin inhibitor (RAJ) 153 131 173 176 156 204 X14008_ma1_f_at Human lysozyme gene (EC 3 2 1 17) 602 1072 336 481 553 986 X14046_at Human mRNA for leukocyte antigen CD37 20 63 31 20 42 159 X14085_s_at H. sapiens mRNA for "beta-1,4-galactosyltransferase" 112 141 275 192 215 124 (EC 2.4 1 22) X14253_s_at Human mRNA for cripto protein 51 33 20 20 175 22 X14329_at Human mRNA for carboxypeptidase N small subunit 20 61 20 20 81 72 (EC 3 4 17 3) X14346_at Human mRNA for eosmophil peroxidase 20 20 20 20 20 32 X14362_at Human CR1 mRNA for C3b/C4b receptor secreted form 20 20 20 20 20 20 X14445_at Human Int-2 proto-oncogene 98 21 20 20 140 83 X14448_at Human GLA gene (or aipha-D-galaclosidase A 123 115 109 97 178 228 (EC 3 2 1 22) X14474_at Human mRNA for microtubule-associated tau protein 20 22 95 20 143 31 X14675_at Human bcr-abl mRNA 5' fragment (clone 3c) /gb = 130 60 116 85 20 189 X14675 /ntype = RNA X14684_s_at Human mRNA for La protein C-terminal region 136 258 469 379 244 172 X14690_s_at Human mRNA for plasma inter-alpha-trypsin 20 20 20 20 20 20 inhibitor heavy chain H(3) X14766_at Human mRNA for GABA-A "receptor," alpha 1 subunit 115 91 226 123 20 20 X14767_at Human mRNA for GABA-A "receptor," beta 1 subunit 30 20 20 20 180 20 X14787_at Human mRNA for thrombospondin 155 20 23 20 20 23 X14789_at H. sapiens alpha-A crystallin gene exon "1,2" and 30 20 44 20 20 20 pseudoexon X14813_at Human liver mRNA for 3-oxoacyl-CoA thiolase 60 32 91 114 61 219 X14830_at Human mRNA for muscle acetylcholine receptor 58 45 46 24 75 161 beta-subunit X14850_at Human H2A X mRNA encoding hlstone H2A X 54 44 87 99 47

165 X14885_ma1_s_at H. sapiens gene (or transforming growth factor-beta 3 20 20 20 20 20 20 (TGF-beta 3) exon 1 (and joined CDS) X14894_at Human mRNA for myogenic factor Myf-5 20 20 20 20 29 20 X14968_at Human testis mRNA for the RII-alpha subunit of 20 20 20 20 20 20 CAMP dependent protein kinase X14975_at Human CD1 R2 gene for MHC-related antigen 20 20 20 20 20 20 X15088_at Human GNAT1 mRNA for transducin alpha-chain 20 20 20 20 20 20 X15183_at Human mRNA for 90-kDa heat-shock protein 919 1273 1901 1791 586 1790 X15187_at Human tral mRNA tor human homoiogue of 199 106 307 246 139 172 murine tumor rejection antigen gp96 X15217_at Human sno oncogene mRNA for snoA "protein," 20 20 20 20 20 20 ski-related X15218_at Human ski oncogene mRNA 20 20 20 20 38 20 X15306_ma1_at H. sapiens NF-H gene, exon 1 (and joined CDS) 20 25 28 23 70 20 X15331_s_at Human mRNA for phosphoribosylpyrophosphate 20 20 20 20 109 112 synthetase subunit one X15341_at Human COX" VIa-L mRNA for cytochrome c oxidase 1338 1071 1351 1611 944 1377 liver-specific subunit VIa (EC 1 9 3 1) X15357_at Human mRNA for natriuretic peptide receptor 20 20 38 52 31 108 (ANP-A receptor) X15376_at Human mRNA for GABA-A "receptor." gamma 2 90 83 92 73 91 104 subunit X15393_ma1_at H. sapiens motilm gene exon 2 (and joined CDS) 93 98 138 116 254 223 X15414_at Human mRNA for aldose reductase (EC 1.1 1 2) 110 174 93 249 383 254 X15422_at Human mRNA tor mannose-bmding protein C 20 20 20 20 20 20 X15525_ma1_at H. sapiens lysosomal acid phosphauuegone (EC 3 1.3.2) 25 54 59 22 31 53 Exon 1 (and joined CDS) X15573_at Human liver-type 1-phosphofructokinase (PFKL) "mRNA," 20 20 20 31 20 20 complete cds X15673_s_at Human pTR2 mRNA for repetitive sequence /gb = X15673 66 108 246 124 262 137 /ntype = RNA X15675_at Human pTR7 mRNA for repetitive seguence /gb = X15675 20 20 20 20 136 20 /ntype = RNA X15722_at Human mRNA for glutathione reductase (EC 1.6 4.2) 20 20 20 20 20 20 X15729_s_at Human mRNA for nuclear p68 protein 305 295 511 489 20 262 X15822_at Human QOX VIIa-L mRNA for liver-specific cytochrome c 760 830 710 834 439 1003 oxidase (EC 1 9 3 1) X15875_at Human mRNA for cAMP'response element (CRE-BP1) 62 35 64 58 123 78 binding protein X15880_at Human mRNA for collagen VI alpha-1 C-terminal 429 267 136 92 221 181 globular domain X15882_at Human mRNA for collagen VI alpha-2 C-terminal 314 68 31 20 52 30 globular domain X15940_at Human mRNA for ribosomal protein L31 3375 5994 4331 4748 2189 4097 X15943_at Huamn calcitonin/alpha-CGRP gene 20 20 20 20 20 20 X15949_at Human mRNA tor interferon regulatory factor-2 21 33 52 60 22 49 (IRF-2) X15954_ma1_s_at H. sapiens MBP1 "gene," exon 1 (and joined CDS) 20 20 20 20 20 20 X16064_at Human mRNA for transiationally controlled tumor 4572 3795 3961 4445 1971 2255 protein X16105_at Human mRNA for RD "protein," RNA-binding 81 99 118 108 20 54 X16135_at Human mRNA for novel heterogeneous nuclear RNP 242 326 388 317 481 477 "protein," L protein X16260_s_at Human mRNA for inter-alpria-trypsm inhibitor 20 20 20 20 20 20 subunit 3 X16281_at Human mRNA for zinc finger protein (clone 431) 20 20 20 20 73 20 X16282_at Human mRNA for zinc finger protein (clone 647) 20 20 20 20 35 20 X16316_at Human mRNA for vay oncogene 153 111 179 127 215 315 X16323_at Human mRNA tor hepatocytegrowth factor (HGF) 23 20 38 20 159 20 X16354_at Human mRNA for transmembrane carcinoembryonic 60 29 34 41 21 84 antigen BGPa (formerly TM1-CEA) X16396_at Human mRNA for NAD-dependent methylene 49 20 20 20 20 26 tetrahydrofolate dehydrogenase cyclphydrolase (EC 1 5 1 15) X16416_at Human c-abl mRNA encoding p150 protein 102 51 96 66 106 163 X16504_s_at 20 20 20 20 20 20 X16546_at Human DNA tor eosmophil denved neurotoxin 20 20 20 20 37 20 x165 0_at Human COX Vilegene for subunit Vile of 858 983 844 956 497 737 cytochrome c oxidase (EC 1 9 3 1) X16659_s_at Human mRNA for ankyrin (variant 2 1) 20 20 20 20 154 22 X16660_cds1_s_at open reading frame p15 (AA 1-136) gene extracted 20 20 20 20 20 20 from Human HTLV-I related endogenous retroviral sequence (HRES-1/1) X16662_at Human mRNA for vascular anticoagulant-beta 355 285 317 243 118 545 (VAC-beta) X16663_at Human HS1 gene for heamatopoietic lineage cell 20 46 71 23 25 53 specific protein X16665_at Human HOX2H mRNA from the Hox2 locus 22 71 120 94 140 141 x16666_at 20 20 20 20 20 20 X16667_at Human HOX2G mRNA from the Hox2 locus 77 86 136 104

141 230 X16699_at Human mRNA tor cytochrome P450HP 20 20 20 20 20 20 X16706_at Human fra-2 mRNA 20 20 55 70 20 20 X167b7_at Human fra-1 mRNA 20 20 20 20 20 20 X16832_at Human mRNA for cathepsm H (EC 3 4.22 16) 661 971 1219 1555 596 566 X16866_at Human mRNA for cytochrome P-450IID (clone 20 20 20 20 20 20 pMP33) X16901_at Human mRNA for RAP3Q subunit of transcription 20 20 20 20 20 48 initiation factor RAP30/74 X16983_at Human mRNA ror integrin alpha-4 subunit 20 20 20 20 20 20 X17025_at Human homolog of yeast IPP isomerase 35 20 20 20 20 20 X17042_at Human mRNA for hematopoetic proteoglycan core 314 280 111 35 114 386 protein

Detail Description Table CWU - DETL (112):
splicing "factor," 42 71 152 119 158 62 SF1-HL1 isoform Y08766_s_at H. sapiens mRNA for splicing "factor," 20 20 20 20 20 92 SF1-Bo isoform Y08836_at H. sapiens mRNA for HRX-hke protein /gb = Y08836 42 53 54 43 165 120 /ntype = RNA Y08837_at H. sapiens mRNA for RAD51-like protein. /gb = 20 20 20 20 33 20 Yp8837 /ntype = RNA Y08915_at H. sapiens mRNA for alpha 4 protein 87 85 178 160 62 91 Y08976_at H. sapiens mRNA for FEV protein 20 147 221 181 438 417 Y08991_at H. sapiens mRNA for adaptor protein p150 33 22 41 20 73 98 Y08999_at H. sapiens mRNA for Sop2p-like protein 88 20 112 111 20 32 Y09022_at H. sapiens mRNA for Not56-like protein 66 101 141 96 110 220 Y09216_at H. sapiens mRNA for protein "kinase," Dyrk2 84 48 103 85 107 106 Y09267_at H. sapiens mRNA for flavin-containing monooxygenase 2 20 20 20 20 20 20 /gb = Y09267 /ntype = RNA Y09305_at H. sapiens mRNA tor protein "kinase," 20 58 52 20 43 26 "Dyrk4," partial Y09306_at H. sapiens mRNA for protein "kinase," 20 20 20 20 54 20 "Dyrk6" partial /gb = Y09306 /ntype = RNA" Y09321_at H. sapiens TAFII105 "mRNA," pwllaf 20 20 20 20 20 20 Y09392_s_at H. sapiens mRNA for "WSL-LR," WSL-S1 and 20 20 141 20 20 20 WSL-S2 proteins Y09443_at H. sapiens for alkyl-dihydroxyacetonephosphate 59 42 22 27 27 36 synthase precursor Y09445_at H. sapiens mRNA for transcription factor TBX5 20 20 20 20 20 20 Y09561_at H. sapiens mRNA for P2X7 receptor 27 20 20 20 20 20 Y09615_at H. sapiens mRNA for mitochondrial transcription 20 25 20 20 20 20 termination factor Y09616_at H. sapiens mRNA for putative carboxylesterase 121 92 143 96 135 159 Y09836_at H. sapiens mRNA for 3'UTR of unknown protein 62 35 20 20 64 20 Y09858_at H. sapiens mRNA for unknown protein 20 30 27 24 52 38 Y09912_ma1_at H. sapiens AP-2 beta gene 20 20 20 20 20 20 Y09943_at H. sapiens mRNA for NGF-inducible PC3 anti- 20 20 20 20 20 20 proliferative protein Y09980_ma4_at H. sapiens HOXD3 gene 20 27 27 20 56 20 Y10032_at H. sapiens mRNA for putative serine/threonine 130 28 20 26 76 107 protein kinase Y10055_at H. sapiens mRNA for phosphomositide 3-kinase 20 20 20 20 149 85 Y10141_s_at H. sapiens DAT1 "gene," "partial," 20 20 133 24 231 143 VNTR. /gb = Y10141 /ntype = DNA /annot = CDS Y10202_at H. sapiens mRNA for CD207 protein. /gb = Y10202 20 20 20 20 20 24 /ntype = RNA Y10204_at H. sapiens mRNA for CD77 protein. /gb = Y10204 20 24 20 20 20 20 /ntype = RNA Y10205_at H. sapiens mRNA for CD88 protein /gb = Y10205 20 20 20 20 20 20 /ntype = RNA Y10207_at H. sapiens mRNA tor CD171 protein. /gb = Y10207 57 90 27 20 135 211 /ntype = RNA Y10209_at H. sapiens mRNA tor CD30L protein /gb = Y10209 20 20 20 20 20 20 /ntype = RNA Y10210_at H. sapiens mRNA for CD22 protein /gb = Y10210 20 20 20 20 20 20 /ntype = RNA Y102 3_at H. sapiens mRNA tor serine/threonine protein 20 20 20 20 20 20 "kinase," NIK Y10260_at H. sapiens EYA1 gene 20 40 20 20 112 219 Y10262_s_at H. sapiens EYA3 gene. /gb = Y10262 20 20 66 20 20 20 /ntype = DNA /annot = CDS Y10275_at H. sapiens mRNA for L-3-phosphoserine phosphatase 20 20 20 20 20 51 Y10313_at sapiens mRNA for nervegrowth factor-inducible 34 20 20 20 20 20 PC4 homologue Y10375_s_at H. sapiens mRNA for SIRP-alpha1 20 20 20 20 467 147 Y10376_at H. sapiens mRNA for SIRP-beta1 20 20 33 30 20 20 Y10505_at H. sapiens mRNA for CD104 protein. /gb = Y10505 20 20 20 20 59 20 /ntype = RNA Y10506_at H. sapiens mRNA for CD110 protein /gb = Y10506 20 65 20 20 20 20 /ntype = RNA Y10508_s_at H. sapiens mRNA for CD190 protein /gb = Y10508 20 20 20 20 47 20 /ntype = RNA Y10510_at H. sapiens mRNA for CD67S protein /gb = YI0510 20 20 20 20 20 20

/ntype = RNA Y10511_at H. sapiens mRNA for CD176 protein /gb = Y10511 23 20 20 20 20 20 /ntype = RNA Y10512_at H. sapiens mRNA for CD282 protein. /gb = Y10512 20 20 20 20 20 55 /ntype = RNA Y10514_s_at H. sapiens mRNA for GD152 protein. /gb = Y10514 20 20 20 31 45 20 /ntype = RNA Y10515_at H. sapiens mRNA for CD58 T7 protein. /gb = Y10515 20 20 20 20 20 20 /ntype = RNA Y10517_at H. sapiens mRNA for CD108 protein. /gb = Y10517 20 20 20 20 20 20 /ntype = RNA Y10518_at H. sapiens mRNA for CD202 protein /gb = Y10518 23 20 20 20 59 25 /ntype = RNA Y10571_at H. sapiens mRNA for dlnG gene 20 20 20 20 20 22 Y10615_at H. sapiens CYRN2 gene. /gb = Y10615 34 20 53 34 110 63 /ntype = DNA /annot = CDS Y10659_at H. sapiens IL-13R8 mRNA 20 20 20 20 20 24 Y10807_s_at H. sapiens mRNA for arginine "methyltransferase," 87 101 558 442 20 407 splice "variant," 1262 bp Y10812_at H. sapiens mRNA for fructose-biphosphatase 20 20 20 20 20 20 Y10871_at H. sapiens twist gene 110 154 116 97 279 284 Y10936_at H. sapiens mRNA for hypothetical protein downstream 41 20 61 35 58 40 of DMPK and DMAHP Y11174_at H. sapiens mRNA for RP3 gene /gb = Y11174 20 20 20 20 20 20 /ntype = RNA Y11180_at H. sapiens mRNA for twist "protein," partial 20 29 20 20 20 20 /gb = Y11180 /ntype = RNA Y11215_at Homo sapiens mRNA for SKAP55 protein. 34 20 55 50 2041 20 /gb = Y11215 /ntype = RNA Y11251_at H. sapiens mRNA for novel member of serine-arginine 20 20 40 22 20 20 domain "protein," SRrp129 Y11306_ma1_at Homo sapiens mRNA for hTCF-4. 20 20 63 53 20 20 Y11416_at H. sapiens mRNA for P73. 20 43 20 21 125 64 Y11651_at H. sapiens mRNA for phosphate cyclase 20 20 24 30 20 20 Y11681_at Homo sapiens mRNA for mitochondnal ribosomal protein 112 172 137 114 40 154 S12 /gb = Y11681 /ntype = RNA Y11709_at H. sapiens mRNA for extracellular matrix protein 20 20 20 20 20 20 collagen type "XIV," N-terminus /gb = Y11709 /ntype = RNA Y11710_ma1_at H. sapiens mRNA for extracellular matrix protein 21 73 43 52 127 131 collagen type XIV, C-terminus Y11897_at H. sapiens Brx gene 3'UTR. /gb = Y11897 66 40 67 56 159 20 /ntype = RNA Y11999_at H. sapiens mRNA for inositol "1,4,5-triphosphate" 20 20 20 20 20 20 kinase /gb = Y11999 /ntype = RNA Y12393_s_at H. sapiens mRNA for SRFM-like 20 20 68 40 20 39 "protein," partial Y12394_at H. sapiens mRNA for SRPUike protein ' 20 20 27 20 20 20 Y12478_at H. sapiens mRNA for CHD5 protein 20 20 20 20 20 20 Y12556_at H. sapiens mRNA for AMP-activated protein kinase 20 20 20 20 20 20 beta-1. /gb = Y12556 /ntype=RNA Y12670_at H. sapiens OB-RGRP gene /gb = Y12670 20 71 165 133 20 20 /ntype = RNA Y12711_at H. sapiens mRNA for putative progesterone 73 48 133 153 91 65 binding protein Y12812_at H. sapiens RFXAP mRNA 20 20 20 20 20 20 Y12856_at H. sapiens mRNA" for AMP-activated" 41 20 22 20 105 39 protein kinase "alpha-1," partial /gb = Y128S6 /ntype = RNA Y13115_at Homo sapiens mRNA for serine/threonine protein 55 78 26 48 117 92 kinase SAK Y13153_at Homo sapiens mRNA for kynurenine 3-monooxygenase. 32 26 24 26 133 20 /gb = Y13153 /ntype = RNA Y13247_at Homo sapiens fb19 mRNA 81 49 91 123 328 171 Y13618_at Homo sapiens mRNA Tfor DFFRY "protein," 20 20 20 22 20 20 abundant transcript Y13620_at Homo sapiens mRNA for BCL9 gene. /gb = Y13620 20 20 20 20 20 20 /ntype = RNA Y13896_at Homo sapiens skeletal muscle alternate 5'end 20 20 20 20 143 35 67 gene kir4.2 5'UTR /gb = Y13896 /ntype = RNA Y14140_at Homo sapiens G protein gene encoding beta 3 subunit 88 57 121 88 128 120 exon 1 and promoter. /gb = Y14140 /ntype = DNA /annot = exon Z00010_at 20 20 20 20 36 31 Z11502_at H. sapiens mRNA for intestine-specific annexin 20 20 20 20 66 45 Z11518_s_at H. sapiens mRNA for histidyl-tRNA synthetase 20 20 98 20 20 57 Z11559_at H. sapiens mRNA for iron regulatory factor 38 24 28 20 20 60 Z11685_s_at H. sapiens mRNA for RNA helicase 20 20 20 20 32 20 Z11695_at H. sapiens 40 kDa protein kinase related to rat ERK2 20 20 20 20 20 20 Z11697_at Homo sapiens mRNA for HB15 27 20 25 20 87 20 Z11737_at H. sapiens mRNA for flavin-containing monooxygenase 4 20 20 37 20 44 20 Z11793_at H. sapiens mRNA for selenoproteih P 208 92 40 20 20 54 Z11850_at H. sapiens mRNA for somatotropin receptor 5' 20 20 20 20 20 20 upstream region. /gb = Z11850 /ntype = RNA Z11899_s_at H. sapiens OTF3 mRNA encoding octamer binding 68 154 191 235 94 139 protein 38 Z11933_at H. sapiens mRNA for N-Oct "3," 20 20 20

20 275 20 "N-Oct5a," and

PGPUB-DOCUMENT-NUMBER: 20040029173

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040029173 A1

TITLE: Protein activity screening of clones having DNA from uncultivated microorganisms

PUBLICATION-DATE: February 12, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Short, Jay M.	Rancho Santa Fe	CA	US	

APPL-NO: 10/ 374576

DATE FILED: February 25, 2003

RELATED-US-APPL-DATA:

child 10374576 A1 20030225

parent continuation-of 09407525 19990928 US PENDING

child 09407525 19990928 US

parent continuation-of 08988224 19971210 US GRANTED

parent-patent 6280926 US

child 08988224 19971210 US

parent division-of 08657409 19960603 US GRANTED

parent-patent 5958672 US

child 08657409 19960603 US

parent continuation-in-part-of 08568994 19951207 US ABANDONED

child 08568994 19951207 US

parent continuation-in-part-of 08503606 19950718 US GRANTED

parent-patent 6004788 US

US-CL-CURRENT: 435/7.1, 435/252.3 , 435/254.2 , 435/257.1 , 435/258.1 , 435/6

ABSTRACT:

Disclosed is a process of screening clones having DNA from an uncultivated microorganism for a specified protein, e.g. enzyme, activity by screening for a specified protein, e.g. enzyme, activity in a library of clones prepared by (i) recovering DNA from a DNA population derived from at least one uncultivated microorganism; and (ii) transforming a host with recovered DNA to produce a library of clones which is screened for the specified protein, e.g. enzyme,

activity.

RELATED APPLICATIONS

[0001] This application is a continuation-in-part of U.S. patent application Ser. No. 08/568,994 which was filed on Dec. 7, 1995 (copending) which is a continuation-in-part of U.S. application Ser. No. 08/503,606 which was filed on Jul. 18, 1995 (copending).

---------- KWIC ---------

Summary of Invention Paragraph - BSTX (94):
[0092] d. Glycoside synthesis using UDP-galactosyl transferase

Detail Description Table CWU - DETL (10):
10TABLE 4 25 G2 .beta.-D-galactose .beta.-D-glucose .beta.-D-glucuronide GB3 .beta.-D-cellotrioside .beta.-D-cellobiopyranoside GC3 .beta.-D-galactose .alpha.-D-galactose CD3 .beta.-D-glucose .alpha.-D-glucose GE3 .beta.-D-glucuronide GI3 .beta.-D-N,N-diacetylchitobiose GJ3 .beta.-D-fucose .alpha.-L-fucose .beta.-L-fucose GK3 .beta.-D-mannose .alpha.-D-mannose non-Umbelliferyl substrates GA3 amylose [polyglucan .alpha. 1,4 linkages], amylopectin [polyglucan branching .alpha. 1,6 linkages] GF3 xylan [poly 1,4-D-xylan] GG3 amylopectin, pullulan GH3 sucrose, fructofuranoside

PGPUB-DOCUMENT-NUMBER: 20040009479

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040009479 A1

TITLE: Methods and compositions for diagnosing or monitoring auto immune and chronic inflammatory diseases

PUBLICATION-DATE: January 15, 2004

US-CL-CURRENT: 435/6

APPL-NO: 10/ 131827

DATE FILED: April 24, 2002

RELATED-US-APPL-DATA:

child 10131827 A1 20020424

parent continuation-in-part-of 10006290 20011022 US PENDING

non-provisional-of-provisional 60296764 20010608 US

RELATED APPLICATIONS

[0001] This application is a Continuation-in-Part Application of Ser. No. 10/006,290 filed Oct. 22, 2002, which claims priority to U.S. provisional patent application No. 60/296,764 filed Jun. 8, 2001, both of which are hereby incorporated by reference in their entirety.

PGPUB-DOCUMENT-NUMBER: 20040005587

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040005587 A1

TITLE: Protein activity screening of clones having DNA from uncultivated microorganisms

PUBLICATION-DATE: January 8, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Short, Jay M.	Encinitas	CA	US	

APPL-NO: 10/ 364731

DATE FILED: February 10, 2003

RELATED-US-APPL-DATA:

child 10364731 A1 20030210

parent continuation-of 09713176 20001114 US GRANTED

parent-patent 6528249 US

child 09713176 20001114 US

parent continuation-of 08988224 19971210 US GRANTED

parent-patent 6280926 US

child 08988224 19971210 US

parent division-of 08657409 19960603 US GRANTED

parent-patent 5958672 US

child 08657409 19960603 US

parent continuation-in-part-of 08568994 19951207 US ABANDONED

child 08568994 19951207 US

parent continuation-in-part-of 08503606 19950718 US GRANTED

parent-patent 6004788 US

US-CL-CURRENT: 435/6, 435/189 , 435/193 , 435/196 , 435/232 , 435/233 , 435/254.2 , 435/257.1 , 435/258.1 , 435/320.1 , 435/7.1

ABSTRACT:

Disclosed is a process of screening clones having DNA from an uncultivated microorganism for a specified protein, e.g. enzyme, activity by screening for a specified protein, e.g. enzyme, activity in a library of clones prepared by (i) recovering DNA from a DNA population derived from at least one uncultivated

microorganism; and (ii) transforming a host with recovered DNA to produce a library of clones which is screened for the specified protein, e.g. enzyme, activity.

RELATED APPLICATIONS

[0001] This application is a continuation application of U.S. patent application Ser. No. 09/713,176, filed on Nov. 14, 2000, which is a continuation application of U.S. patent application Ser. No. 08/988,224, filed Dec. 10, 1997, issued as U.S. Pat. No. 6,280,926, which is a divisional application of U.S. patent application Ser. No. 08/657,409, filed on Jun. 3, 1996, issued as U.S. Pat. No. 5,958,672, which is a continuation-in-part of U.S. application Ser. No. 08/568,994, filed on Dec. 7, 1995, now abandoned, which was a continuation-in-part of U.S. application Ser. No. 08/503,606, filed on Jul. 18, 1995, issued as U.S. Pat. No. 6,004,788. All of the disclosures of which are incorporated herein by reference in their entirety.

---------- KWIC ---------

Summary of Invention Paragraph - BSTX (94):
[0092] d. Glycoside synthesis using UDP-galactosyl transferase

Detail Description Table CWU - DETL (4):
5TABLE 4 25 4-methyl umbelliferone wherein R = G2 .beta.-D-galactose .beta.-D-glucose .beta.-D-glucuronide GB3 .beta.-D-cellotrioside .beta.-D-cellobiopyranoside GC3 .beta.-D-galactose .alpha.-D-galactose CD3 .beta.-D-glucose .alpha.-D-glucose GE3 .beta.-D-glucuronide GI3 .beta.-D-N,N-diacetylchitobiose GJ3 .beta.-D-fucose .alpha.-L-fucose .beta.-L-fucose GK3 .beta.-D-mannose .alpha.-D-mannose non-Umbelliferyl substrates GA3 amylose [polyglucan .alpha. 1,4 linkages], amylopectin [polyglucan branching .alpha. 1,6 linkages] GF3 xylan [poly 1,4-D-xylan] GG3 amylopectin, pullulan GH3 sucrose, fructofuranoside

PGPUB-DOCUMENT-NUMBER: 20030211543

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030211543 A1

TITLE: Enzyme kits and libraries

PUBLICATION-DATE: November 13, 2003

INVENTOR-INFORMATION:
NAME CITY STATE COUNTRY RULE-47
Short, Jay M. Rancho Santa Fe CA US

APPL-NO: 10/ 441602

DATE FILED: May 19, 2003

RELATED-US-APPL-DATA:

child 10441602 A1 20030519

parent continuation-of 09861267 20010518 US GRANTED

parent-patent 6566050 US

child 09861267 20010518 US

parent division-of 09467740 19991220 US PENDING

child 09467740 19991220 US

parent continuation-of 08503606 19950718 US GRANTED

parent-patent 6004788 US

US-CL-CURRENT: 435/7.1, 435/455 , 435/6 , 435/91.2

ABSTRACT:

Recombinant enzyme libraries and kits where a plurality of enzymes are each characterized by different physical and/or chemical characteristics and classified by common characteristics. The characteristics are determined by screening of recombinant enzymes expressed by a DNA library produced from various microorganisms.

---------- KWIC ---------

Summary of Invention Paragraph - BSTX (140):
[0140] d. Glycoside synthesis using UDP-galactosyl transferase

Detail Description Table CWU - DETL (5):
5TABLE 4 49 4-methyl umbelliferone where R = G2 .beta.-D-galactose .beta.-D-glucose .beta.-D-glucuronide GB3 .beta.-D-cellotrioside .beta.B-cellobiopyranoside GC3 .beta.-D-galactose .alpha.-D-galactose GD3 .beta.-D-glucose .alpha.-D-glucose GE3 .beta.-D-glucuronide GI3 .beta.-D-N,N-diacetylchitobiose GJ3 .beta.-D-fucose .alpha.-L-fucose

.beta.-L-fucose GK3 .beta.-D-mannose .beta.-D-mannose non-Umbelliferyl substrates GA3 amylose [polyglucan .alpha.1,4 linkages], amylopectin [polyglucan branching .alpha.1,6 linkages] GF3 xylan [poly 1,4-D-xylan] GG3 amylopectin, pullulan GH3 sucrose, fructofuranoside

PGPUB-DOCUMENT-NUMBER: 20030198970

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030198970 A1

TITLE: Genostics

PUBLICATION-DATE: October 23, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Roberts, Gareth Wyn	Cambs		GB	

APPL-NO: 10/ 206568

DATE FILED: July 29, 2002

RELATED-US-APPL-DATA:

child 10206568 A1 20020729

parent continuation-of 09325123 19990603 US ABANDONED

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	DOC-ID	APPL-DATE
GB	9812098.3	1998GB-9812098.3	June 6, 1998
GB	9828289.0	1998GB-9828289.0	December 23, 1998

US-CL-CURRENT: 435/6, 536/24.3

ABSTRACT:

People vary enormously in their response to disease and the also in their response to therapeutic interventions aimed at ameliorating the disease process and progression. However, the provision of medical care and medical management is centered around observations and protocols developed in clinical trials on groups or cohorts of patients. This group data is used to derive a standardised method of treatment which is subsequently applied on an individual basis. There is considerable evidence that a significant factor underlying the individual variability in response to disease, therapy and prognosis lies in a person's genetic make-up. There have been numerous examples relating that polymorphisms within a given gene can alter the functionality of the protein encoded by that gene thus leading to a variable physiological response. In order to bring about the integration of genomics into medical practice and enable design and building of a technology platform which will enable the everyday practice of molecular medicine a way must be invented for the DNA sequence data to be aligned with the identification of genes central to the induction, development, progression and outcome of disease or physiological states of interest. According to the invention, the number of genes and their configurations (mutations and polymorphisms) needed to be identified in order to provide critical clinical information concerning individual prognosis is considerably less than the 100,000 thought to comprise the human genome. The identification of the identity of the core group of genes enables the invention of a design for genetic profiling technologies which comprises of the identification of the core group of genes and their sequence variants required to provide a broad base of clinical prognostic information--`genostics`. The "GenosticTM" profiling of patients and persons will radically enhance the

ability of clinicians, healthcare professionals and other parties to plan and manage healthcare provision and the targeting of appropriate healthcare resources to those deemed most in need. The use of our invention could also lead to a host of new applications for such profiling technologies, such as identification of persons with particular work or environment related risk, selection of applicants for employment, training or specific opportunities or for the enhancing the planning and organisation of health services, education services and social services.

---------- KWIC ---------

Claims Table CWU - CLTL (8):
syndrome 1 gene WFS1 S Zinc finger protein 198 ZIC198 S Zinc finger protein 2 ZIC2 S Zinc finger protein 3 ZIC3 S Zinc finger protein HRX ALL1 I Alpha 2 macroglobulin A2M I Annexin 1 ANX 1 I Apoptosis antigen 1 APT1 I Apoptosis antigen ligand 1 APT1LG1 I Apoptosis-inducing factor AIF I ATP-binding cassette transporter 7 ABC7 I Attractin I Autoimmune regulator, AIRE AIRE I B-cell CLL/lymphoma 1 BCL1 I B-cell CLL/lymphoma 10 BCL10 I B-cell CLL/lymnphoma 3 BCL3 I B-cell CLL/lymphoma 4 BCL4 I B-cell CLL/lymphoma 5 BCL5 I B-cell CLL/lymphoma 6 BCL6 I B-cell CLL/lymphoma 7 BCL7 I B-cell CLL/lymphoma 8 BCL8 I B-cell CLL/lymphoma 9 BCL9 I beta 2 microglobulin B2M I Bradykinin receptor B1 I Bradykinin receptor B2 I Calcineurin A1 CALNA1 I Calcineurin A2 CALNA2 I Calcineurin A3 CALNA3 I Calcineurin B I Catalase CAT I CD1 CD1 I CD10 CD10 I CD100 CD100 I CD101 CD101 I CD103 CD103 I CD106 CD106 I CD107 CD107 I CD108 CD108 I CD109 CD109 I CD110 CD110 I CD111 CD111 I CD112 CD112 I CD113 CD113 I CD114 CD114 I CD115 CD115 I CD116 CD116 I CD117 CD117 I CD118 CD118 I CD119 CD119 I CD12 CD12 I CD120 CD120 I CD121 CD121 I CD122 CD122 I CD123 CD123 I CD124 CD124 I CD125 CD125 I CD126 CD126 I CD127 CD127 I CD128 CD128 I CD129 CD129 I CD13 CD13 I CD130 CD130 I CD131 CD131 I CD132 CD132 I CD133 CD133 I CD134 CD134 I CD135 CD135 I CD136 CD136 I CD137 CD137 I CD138 CDI38 I CD139 CD139 I CD14 CD14 I CD140 CD140 I CD141 CD141 I CD142 CD142 I CD143 CD143 I CD144 CD144 I CD145 CD145 I CD147 CD147 I CD148 CD148 I CD149 CD149 I CD15 CD15 I CD150 CD150 I CD151 CD151 I CD152 CD152 I CD153 CD153 I CD154 CD154 I CD155 CD155 I CD156 CD156 I CD157 CD157 I CD158 CD158 I CD159 CD159 I CD160 CD160 I CD161 CD161 I CD162 CD162 I CD163 CD163 I CD164 CD164 I CD165 CD165 I CD166 CD166 I CD17 CD17 I CD19 CD19 I CD2 CD2 I CD20 CD20 I CD22 CD22 I CD23 CD23 I CD24 CD24 I CD25 CD25 I CD26 CD26 I CD27 CD27 I CD28 CD28 I CD3 CD3 I CD30 CD30 I CD31 CD31 I CD33 CD33 I CD34 CD34 I CD36 CD36 I CD37 CD37 I CD38 CD38 I CD39 CD39 I CD4 CD4 I CD40 CD40 I CD41 CD41 I CD42 CD42 I CD43 CD43 I CD44 CD44 I CD45 CD45 I CD46 CD46 I CD47 CD47 I CD48 CD48 I CD5 CD5 I CD50 CD50 I CD52 CD52 I CD53 CD53 I CD55 CD55 I CD57 CD57 I CD58 CD58 I CD59 CD59 I CD6 CD6 I CD60 CD60 I CD63 CD63 I CD65 CD65 I CD66 CD66 I CD67 CD67 I CD68 CD68 I CD69 CD69 I CD7 CD7 I CD70 CD70 I CD71 CD71 I CD72 CD72 I CD73 CD73 I CD74 CD74 I CD75 CD75 I CD76 CD76 I CD77 CD77 I CD78 CD78 I CD79 CD79 I CD8 CD8 I CD80 CD80 I CD81 CD81 I CD83 CD83 I CD84 CD84 I CD85 CD85 I CD86 CD86 I CD88 CD88 I CD89 CD89 I CD9 CD9 I CD90 CD90 I CD91 CD91 I CD92 CD92 I CD93 CD93 I CD94 CD94 I CD96 CD96 I CD97 CD97 I CD98 CD98 I CD99 CD99 I Chemokine MCAF MCAF I Chemokine receptor CCR2 CCR2 I Chemokine receptor CCR3 CCR3 I Chemokine receptor CCR5 CCR5 I Chemokine receptor CXCR1 CXCR1 I Chemokine receptor CXCR2 CXCR2 I Chemokine receptor CXCR4 CXCR4 I Cholesterylester hydrolase I Chondritin Sulphate A--placental receptor I Cochlin COCH I Complement component C1 inhibitor C1NH I Complement component C1qa C1QA I Complement component C1qb C1QB I Complement component C1qg C1QG I Complement component C1r C1R I Complement component C1s C1S I Complement component C2 C2 I Complement component C3 C3 I Complement component C4A C4A I Complement component C4B C4B I Complement

component C5 C5 I Complement component C6 C6 I Complement component C7 C7 I Complement component C8 C8 I Complement component C9 C9 I Complement component receptor 1 CR1 I Complement component receptor 2 CR2 I Complement component receptor 3 CR3 I Corticosteroid nuclear receptor I Cortisol receptor I C-reactive protein CRP I Cyclophilin I Cytokine-suppressive antiinflammatory CSBP1 I drug-binding protein 1 Cytokine-suppressive antiinflammatory CSBP2 I drug-binding protein 2 DAX1 nuclear receptor DAX1 I Endo-P-D-glucuronicase I Erythropoietin EPO I Erythropoietin receptor EPOR I Factor 1 (No. one) F1 I Factor B, properdin I Factor D I Factor H HF1 I Factor I (letter I) 1F I

Claims Table CWU - CLTL (13):

Bagpipe homeobox, drosophila BAPX1 G homolog of, 1 BCL2-associated X protein BAX G BCL2-related protein A1 BCL2A1 G Beckwith-Wiedemann region 1A BWR1A G Bloom syndrome protein BLM G Bone morphogenetic protein, BMP1 BMP1 G Bone morphogenetic protein, BMP2 BMP2 G Bone morphogenetic protein, BMP3 BMP3 G Bone morphogenetic protein, BMP4 BMP4 G Bone morphogenetic protein, BMP5 BMP5 G Bone morphogenetic protein, BMP6 BMP6 G Bone morphogenetic protein, BMP7 BMP7 G Bone morphogenetic protein, BMP8 BMP8 G Brain derived neurotrophic factor BDNF G Brain derived neurotrophic factor (BDNF) BDNFR G receptor BRCA1-associated RING domain gene 1 BARD1 G Breakpoint cluster region BCR G Breast cancer 1 BRCA1 G Breast cancer 2 BRCA2 G Breast cancer, ductal, 1 BRCD1 G Breast cancer, ductal, 2 BRCD2 G Bruton agammaglobulinaemia tyrosine BTK G kinase Cadherin E CDH1 G Cadherin EP G Cadherin N CDH2 G Cadherin P CDH3 G Calbindin 1 CALB1 G Calbindin D9K CALB3 G Calmodulin 1 CALM1 G Calmodulin 2 CALM2 G Calmodulin 3 CALM3 G Calmodulin-dependant protein kinase II CAMK2A G Calnexin CANX G Cardiac-specific homeobox, CSX CSX G Caspase 1 CASP1 G Caspase 10 CASP10 G Caspase 2 CASP2 G Caspase 3 CASP3 G Caspase 4 CASP4 G Caspase 5 CASP5 G Caspase 6 CASP6 G Caspase 7 CASP7 G Caspase 8 CASP8 G Caspase 9 CASP9 G Catenin, alpha CTNNA1 G Catenin, beta CTNNB1 G Catenin, gamma G Cdc 25 phosphatase G Cdc2 CDC2 G CDX1 G CEA G Cell adhesion molecule, intercellular, ICAM1 G ICAM Cell adhesion molecule, leukocyte- LECAM1 G endothelial, LECAM (CD62) Cell adhesion molecule, liver, LCAM LCAM G Cell adhesion molecule, neural, NCAM1 NCAM1 G Cell adhesion molecule, neural, NCAM120 G NCAM120 Cell adhesion molecule, neural, NCAM2 NCAM2 G Cell adhesion molecule, platelet- PACAM1 G endothelial, PECAM Cell adhesion molecule, vascular, VCAM VCAM1 G c-erbB1 ERBB1 G c-erbB2 ERBB2 G c-erbB3 ERBB3 G c-erbB4 ERBB4 G Cholestasis, progressive familial FIC1 G intrahepatic 1 gene Chromogranin A CHGA G Ciliary neurotrophic factor (CNTF) CNTF G Ciliary neurotrophic factor (CNTF) CNTFR G receptor c-kit receptor tyrosine kinase G Cleavage signal-1 protein CS1 G Cleft palate gene CPX G Clusterin CLU G Cockayne syndrome gene, CKN1 CKN1 G Collapsin G Colony-stimulating factor 1 CSF1 G Colony-stimulating factor 1 receptor CSF1R G Colony-stimulating factor 2 CSF2 G Colony-stimulating factor 2 alpha receptor CSF2RA G Colony-stimulating factor 2 beta receptor CSF2RB G Colony-stimulating factor 3 CSF3 G Colony-stimulating factor 3 receptor CSF3R G Cone-rod homeobox-containing gene CRX G Contactin CNTN1 G Core-binding factor, alpha 1 CBFA1 G Core-binding factor, alpha 2 CBFA2 G Core-binding factor, beta CBFB G Creb binding protein CREBBP G c-src tyrosine kinase CSK G Cyclic AMP response element binding CREB G protein Cyclic AMP response element modulator CREM G Cyclic AMP-dependent protein kinase PKA G Cyclin A CCNA G Cyclin B CCNB G Cyclin C CCNC G Cyclin D CCND1 G Cyclin E CCNE G Cyclin F CCNF G Cyclin-dependent kinase 1 CDK1 G Cyclin-dependent kinase 10 CDK10 G Cyclin-dependent kinase 2 CDK2 G Cyclin-dependent kinase 3 CDK3 G Cyclin-dependent kinase 4 CDK4 G Cyclin-dependent kinase 5 CDK5 G Cyclin-dependent kinase 6 CDK6 G Cyclin-dependent kinase 7 CDK7 G Cyclin-dependent kinase 8 CDK8 G Cyclin-dependent kinase 9 CDK9 G Cyclin-dependent kinase inhibitor 1A CDKN1A G (P21, CIP1) Cyclin-dependent kinase inhibitor 1B CDKN1B G (P27, KIP1) Cyclin-dependent kinase inhibitor

1C CDKN1C G (P57, KIP2) Cyclin-dependent kinase inhibitor 2A CDKN2A G (p16) Cyclin-dependent kinase inhibitor 3 CDKN3 G Defender against cell death 1 DAD1 G Deleted in azoospermia DAZ G Deleted in colorectal carcinoma DCC G Deleted in malignant brain tumours 1 DMBT1 G Dentin sialophosphoprotein DSPP G Desert hedgehog, dhh G Disrupted meiotic cDNA 1, homolog DMC1 G Distal-less homeobox 1 DLX1 G Distal-less homeobox 2 DLX2 G Distal-less homeobox 3 DLX3 G Distal-less homeobox 4 DLX4 G Distal-less homeobox 5 DLX5 G Distal-less homeobox 6 DLX6 G Dynamin DNM1 G Dynein G E74-like factor 1, ELF1 ELF1 G EB1 G Empty spiracles (drosophila) homologue 1 EMX1 G Empty spiracles (drosophila) homologue 2 EMX2 G Endometrial bleeding-associated factor EBAF G Engrailed-1 EN1 G Engrailed-2 EN2 G Ephrin receptor tyrosine kinase A EPHA G Ephrin receptor tyrosine kinase B EPHB G Ephrin-A EFNA G Ephrin-B EFNB G Epidermal growth factor EGF G Epidermal growth factor receptor EGFR G Erythroid kruppel-like factor EKLF G Estrogen receptor ESR G Eukaryotic initiation translation factor EIF4E G EWS RNA-binding protein EWSR1 G Eyes absent 1 EYA1 G Eyes absent 2 EYA2 G Eyes absent 3 EYA3 G Fc fragment of IgG, high affinity IA, FCGR1A G receptor for Fc fragment of IgG, low affinity IIa, FCGR2A G receptor for (CD32) Fc fragment of IgG, low affinity IIIa, FCGR3A G receptor for (CD 16) Fertilin protein FTNB G Fibrillin 1 FBN1 G Fibrillin 2 FBN2 G Fibroblast growth factor FGF1 G Fibroblast growth factor receptor 1 FGFR1 G Fibroblast growth factor receptor 2 FGFR2 G Fibroblast growth factor receptor 3 FGFR3 G Fibronectin precursor FNI G Flightless-II, Drosophila homolog of FLII G Folic acid receptor FOLR G Follicle stimulating hormone receptor FSHR, ODG1 G Follicle stimulating hormone, FSH FSHB G Follistatin G Forkhead rhabdomyosarcoma gene FKHR G Forkhead transcription factor 10 FKHL10 G Forkhead transcription factor 14 FKHL14 G Forkhead transcription factor 7 FKHL7 G Frataxin FRDA G Fringe secreted protein, lunatic LFNG G Fringe secreted protein, manic MFNG G Fringe secreted protein, radical RFNG G Fukuyama type congenital muscular FCMD G dystrophy G/T mismatch binding protein GTBP, MSH6 G Galactosyltransferase 1 GT1 G Galactosyltransferase, alpha 1,3 GGTA1 G Galactosyltransferase, beta 3 B3GALT G Gastrin GAS G

US-PAT-NO: 6677115

DOCUMENT-IDENTIFIER: US 6677115 B2

TITLE: Protein activity screening of clones having DNA from uncultivated microorganisms

DATE-ISSUED: January 13, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Short; Jay M.	Rancho Santa Fe	CA	N/A	N/A

APPL-NO: 09/ 875412

DATE FILED: June 6, 2001

PARENT-CASE:

RELATED APPLICATIONS

The present application is a continuation of U.S. patent application Ser. No. 08/988,224, filed Dec. 10, 1997, now U.S. Pat. No. 6,280,926, which is a divisional application of Ser. No. 08/657,409, filed on Jun. 3, 1996, now U.S. Pat. No. 5,958,672, which is a continuation-in-part of U.S. patent application Ser. No. 08/568,994, filed Dec. 7, 1995, now abandoned which is a continuation-in-part of U.S. patent application Ser. No. 08/503,606, filed Jul. 18, 1995, now U.S. Pat. No. 6,004,778 which is incorporated by reference.

US-CL-CURRENT: 435/4, 435/6

ABSTRACT:

Disclosed is a process of screening clones having DNA from an uncultivated microorganism for a specified protein, e.g. enzyme, activity by screening for a specified protein, e.g. enzyme, activity in a library of clones prepared by (i) recovering DNA from a DNA population derived from at least one uncultivated microorganism; and (ii) transforming a host with recovered DNA to produce a library of clones which is screened for the specified protein, e.g. enzyme, activity.

27 Claims, 5 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 5

---------- KWIC ---------

Detailed Description Text - DETX (39):

3. Glycosidase/Glycosyl transferase a. Sugar/polymer synthesis b. Cleavage of glycosidic linkages to form mono, all-and oligosaccharides c. Synthesis of complex oligosaccharides d. Glycoside synthesis using UDP-galactosyl transferase e. Transglycosylation of disaccharides, glycosyl fluorides, aryl galactosides f. Glycosyl transfer in oligosaccharide synthesis g.

Diastereoselective cleavage of p-glucosylsulfoxides h. Asyrnrnetric glycosylations i. Food processing j. Paper processing

Detailed Description Paragraph Table - DETL (5):

TABLE 4 ##STR43## 4-methyl umbelliferone wherein R = G2 .beta.-D-galactose .beta.-D-glucose .beta.-D-glucuronide GB3 .beta.-D-cellotrioside .beta.-D-cellobiopyranoside GC3 .beta.-D-galactose .alpha.-D-galactose CD3 .beta.-D-glucose .alpha.-D-glucose GE3 .beta.-D-glucuronide GI3 .beta.-D-N,N-diacetylchitobiose GJ3 .beta.-D-fucose .alpha.-L-fucose .beta.-L-fucose GK3 .beta.-D-mannose .alpha.-D-mannose non-Umbelliferyl substrates GA3 amylose [polyglucan .alpha.1,4 linkages], amylopectin [polyglucan branching .alpha.1,6 linkages] GF3 xylan [poly 1,4-D-xylan] GG3 amylopectin, pullulan GH3 sucrose, fructofuranoside

US-PAT-NO: 6656677

DOCUMENT-IDENTIFIER: US 6656677 B2
See image for Certificate of Correction

TITLE: Enzyme kits and libraries

DATE-ISSUED: December 2, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Short; Jay M.	Encinitas	CA	N/A	N/A

APPL-NO: 09/ 467740

DATE FILED: December 20, 1999

PARENT-CASE:

This application is a continuation of U.S. application Ser. No. 08/503,606, filed on Jul. 18, 1995, U.S. Pat. No. 6,004,788, the entire contents of which is hereby incorporated by reference herein.

US-CL-CURRENT: 435/4, 435/6

ABSTRACT:

Recombinant enzyme libraries and kits where a plurality of enzymes are each characterized by different physical and/or chemical characteristics and classified by common characteristics. The characteristics are determined by screening of recombinant enzymes expressed by a DNA library produced from various microorganisms.

14 Claims, 4 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 4

---------- KWIC ---------

Brief Summary Text - BSTX (53):

The recombinant enzymes of the libraries and kits of the present invention may be used for a variety of purposes and the present invention by providing a plurality of recombinant enzymes classified by a plurality of different enzyme characteristics permits rapid screening of enzymes for a variety of applications. Thus, for example, the present invention permits assembly of enzyme kits which contain a plurality of enzymes which are capable of operating on a specific bond or a specific substrate at specified conditions to thereby enable screening of enzymes for a variety of applications. As representative examples of such applications, there may be mentioned: 1 Lipase/Esterase a. Enantioselective hydrolysis of esters (lipids)/thioesters 1) Resolution of racemic mixtures 2) Synthesis of optically active acids or alcohols from meso-diesters b. Selective syntheses 1) Regiospecific hydrolysis of carbohydrate esters 2) Selective hydrolysis of cyclic secondary alcohols c. Synthesis of optically active esters, lactones, acids, alcohols 1)

Transesterification of activated/nonactivated esters 2) Interesterification 3) Optically active lactones from hydroxyesters 4) Regio- and enantioselective ring opening of anhydrides d. Detergents e. Fat/Oil conversion f. Cheese ripening 2 Protease a. Ester/amide synthesis b. Peptide synthesis c. Resolution of racemic mixtures of amino acid esters d. Synthesis of non-natural amino acids e. Detergents/protein hydrolysis 3 Glycosidase/Glycosyl transferase a. Sugar/polymer synthesis b. Cleavage of glycosidic linkages to form mono, di- and oligosaccharides c. Synthesis of complex oligosaccharides d. Glycoside synthesis using UDP-galactosyl transferase e. Transglycosylation of disaccharides, glycosyl fluorides, aryl galactosides f. Glycosyl transfer in oligosaccharide synthesis g. Diastereoselective cleavage of .beta.-glucosylsulfoxides h. Asymmetric glycosylations i. Food processing j. Paper processing 4 Phosphatase/Kinase a. Synthesis/hydrolysis of phosphate esters 1) Regio-, enantioselective phosphorylation 2) Introduction of phosphate esters 3) Synthesize phospholipid precursors 4) Controlled polynucleotide synthesis b. Activate biological molecule c. Selective phosphate bond formation without protecting groups 5 Mono/Dioxygenase a. Direct oxyfunctionalization of unactivated organic substrates b. Hydroxylation of alkane, aromatics, steroids c. Epoxidation of alkenes d. Enantioselective sulphoxidation e. Regio- and stereoselective Bayer-Villiger oxidations 6 Haloperoxidase a. Oxidative addition of halide ion to nucleophilic sites b. Addition of hypohalous acids to olefinic bonds c. Ring cleavage of cyclopropanes d. Activated aromatic substrates converted to ortho and para derivatives e. 1.3 diketones converted to 2-halo-derivatives f. Heteroatom oxidation of sulfur and nitrogen containing substrates g. Oxidation of enol acetates, alkynes and activated aromatic rings 7 Lignin peroxidase/Diarylpropane peroxidase a. Oxidative cleavage of C--C bonds b. Oxidation of benzylic alcohols to aldehydes c. Hydroxylation of benzylic carbons d. Phenol dimerization e. Hydroxylation of double bonds to form diols f. Cleavage of lignin aldehydes 8 Epoxide hydrolase a. Synthesis of enantiomerically pure bioactive compounds b. Regio- and enantioselective hydrolysis of epoxide c. Aromatic and olefinic epoxidation by monooxygenases to form epoxides d. Resolution of racemic epoxides e. Hydrolysis of steroid epoxides 9 Nitrile hydratase/nitrilase a. Hydrolysis of aliphatic nitriles to carboxamides b. Hydrolysis of aromatic, heterocyclic, unsaturated aliphatic nitriles to corresponding acids c. Hydrolysis of acrylonitrile d. Production of aromatic and carboxamides, carboxylic acids (nicotinamide, picolinamide, isonicotinamide) e. Regioselective hydrolysis of acrylic dinitrile f. .alpha.-amino acids from .alpha.-hydroxynitriles 10 Transaminase a. Transfer of amino groups into oxo-acids 11 Amidase/Acylase a. Hydrolysis of amides, amidines, and other C--N bonds b. Non-natural amino acid resolution and synthesis

Detailed Description Paragraph Table - DETL (5):

TABLE 4 ##STR40## 4-methyl umbelliferone wherein R = G2 .beta.-D-galactose .beta.-D-glucose .beta.-D-glucuronide GB3 .beta.-D-cellotrioside .beta.-B-cellobiopyranoside GC3 .beta.-D-galactose .alpha.-D-galactose GD3 .beta.-D-glucose .alpha.-D-glucose GE3 .beta.-D-glucuronide GI3 .beta.-D-N,N-diacetylchitobiose GJ3 .beta.-D-fucose .alpha.-L-fucose .beta.-L-fucose GK3 .beta.-D-mannose .alpha.-D-mannose non-Umbelliferyl substrates GA3 amylose [polyglucan .alpha.1,4 linkages], amylopectin [polyglucan branching .alpha.1,6 linkages] GF3 xylan [poly 1,4-D-xylan] GG3 amylopectin, pullulan GH3 sucrose, fructofuranoside

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  * * * * * * * * * * * * * STN  Columbus  * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 11:20:47 ON 13 APR 2004

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COST IN U.S. DOLLARS                                    SINCE FILE      TOTAL
                                                           ENTRY    SESSION
FULL ESTIMATED COST                                        16.50      16.71

FILES 'MEDLINE, SCISEARCH, LIFESCI, BIOTECHDS, BIOSIS, EMBASE, HCAPLUS, NTIS,
       ESBIOBASE, BIOTECHNO, WPIDS, CANCERLIT' ENTERED AT 11:21:35 ON 13 APR 2004
ALL COPYRIGHTS AND RESTRICTIONS APPLY.  SEE HELP USAGETERMS FOR DETAILS.

12 FILES IN THE FILE LIST

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          3981 GALACTOSYL
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FILE 'EMBASE'
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          2363 GALACTOSYL
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L6        2396 GALACTOSYLTRANSFERASE# OR GALACTOSYL(W)TRANSFERASE#

FILE 'HCAPLUS'
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L10       1200 GALACTOSYLTRANSFERASE# OR GALACTOSYL(W)TRANSFERASE#

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L13      19154 GALACTOSYLTRANSFERASE# OR GALACTOSYL(W) TRANSFERASE#

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L14        634 GB3 OR CD77 OR GLOBOTRIAOSYLCERAMIDE

FILE 'SCISEARCH'
           264 GB3
            94 CD77
           275 GLOBOTRIAOSYLCERAMIDE
L15        526 GB3 OR CD77 OR GLOBOTRIAOSYLCERAMIDE

FILE 'LIFESCI'
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L16        186 GB3 OR CD77 OR GLOBOTRIAOSYLCERAMIDE

FILE 'BIOTECHDS'
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             7 GLOBOTRIAOSYLCERAMIDE
L17         24 GB3 OR CD77 OR GLOBOTRIAOSYLCERAMIDE
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FILE 'BIOSIS'
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           357 GLOBOTRIAOSYLCERAMIDE
L18        683 GB3 OR CD77 OR GLOBOTRIAOSYLCERAMIDE

FILE 'EMBASE'
           273 GB3
            90 CD77
           395 GLOBOTRIAOSYLCERAMIDE
L19        568 GB3 OR CD77 OR GLOBOTRIAOSYLCERAMIDE

FILE 'HCAPLUS'
           342 GB3
           114 CD77
           380 GLOBOTRIAOSYLCERAMIDE
L20        659 GB3 OR CD77 OR GLOBOTRIAOSYLCERAMIDE

FILE 'NTIS'
             0 GB3
             0 CD77
             0 GLOBOTRIAOSYLCERAMIDE
L21          0 GB3 OR CD77 OR GLOBOTRIAOSYLCERAMIDE

FILE 'ESBIOBASE'
           114 GB3
            65 CD77
           146 GLOBOTRIAOSYLCERAMIDE
L22        265 GB3 OR CD77 OR GLOBOTRIAOSYLCERAMIDE

FILE 'BIOTECHNO'
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            59 CD77
           228 GLOBOTRIAOSYLCERAMIDE
L23        296 GB3 OR CD77 OR GLOBOTRIAOSYLCERAMIDE

FILE 'WPIDS'
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             8 CD77
             8 GLOBOTRIAOSYLCERAMIDE
L24         43 GB3 OR CD77 OR GLOBOTRIAOSYLCERAMIDE

FILE 'CANCERLIT'
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TOTAL FOR ALL FILES
L26       4103 GB3 OR CD77 OR GLOBOTRIAOSYLCERAMIDE

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FILE 'SCISEARCH'
         88683 SYNTHASE#
L28         13 L15(W)SYNTHASE#

FILE 'LIFESCI'
         21030 SYNTHASE#
L29          6 L16(W)SYNTHASE#
```

```
FILE 'BIOTECHDS'
          4913 SYNTHASE#
L30          1 L17(W)SYNTHASE#

FILE 'BIOSIS'
         85698 SYNTHASE#
L31         19 L18(W)SYNTHASE#

FILE 'EMBASE'
         75947 SYNTHASE#
L32         14 L19(W)SYNTHASE#

FILE 'HCAPLUS'
         78881 SYNTHASE#
L33         18 L20(W)SYNTHASE#

FILE 'NTIS'
           212 SYNTHASE#
L34          0 L21(W)SYNTHASE#

FILE 'ESBIOBASE'
         35725 SYNTHASE#
L35          8 L22(W)SYNTHASE#

FILE 'BIOTECHNO'
         29457 SYNTHASE#
L36         10 L23(W)SYNTHASE#

FILE 'WPIDS'
          3885 SYNTHASE#
L37          0 L24(W)SYNTHASE#

FILE 'CANCERLIT'
         12762 SYNTHASE#
L38          4 L25(W)SYNTHASE#

TOTAL FOR ALL FILES
L39        107 L26(W) SYNTHASE#

=> s l13 and l26
FILE 'MEDLINE'
L40         32 L1 AND L14

FILE 'SCISEARCH'
L41         19 L2 AND L15

FILE 'LIFESCI'
L42          7 L3 AND L16

FILE 'BIOTECHDS'
L43          0 L4 AND L17

FILE 'BIOSIS'
L44         27 L5 AND L18

FILE 'EMBASE'
L45         21 L6 AND L19

FILE 'HCAPLUS'
L46         31 L7 AND L20

FILE 'NTIS'
L47          0 L8 AND L21
```

```
FILE 'ESBIOBASE'
L48           9 L9 AND L22

FILE 'BIOTECHNO'
L49          15 L10 AND L23

FILE 'WPIDS'
L50           0 L11 AND L24

FILE 'CANCERLIT'
L51          15 L12 AND L25

TOTAL FOR ALL FILES
L52         176 L13 AND L26

=> s (139 or 152) and py=<2000 range=2003,
FILE 'MEDLINE'
'2003,' IS NOT A VALID RANGE FOR FILE 'MEDLINE'
SEARCH ENDED BY USER

FILE 'SCISEARCH'
            508 PY=<2000
L53           0 (L28 OR L41) AND PY=<2000

FILE 'LIFESCI'
           1584 PY=<2000
L54           0 (L29 OR L42) AND PY=<2000

FILE 'BIOTECHDS'
             65 PY=<2000
                (PY=<2000)
L55           0 (L30 OR L43) AND PY=<2000

FILE 'BIOSIS'
           8597 PY=<2000
L56           0 (L31 OR L44) AND PY=<2000

FILE 'EMBASE'
            427 PY=<2000
L57           0 (L32 OR L45) AND PY=<2000

FILE 'HCAPLUS'
           6582 PY=<2000
L58           0 (L33 OR L46) AND PY=<2000

FILE 'NTIS'
           4636 PY=<2000
L59           0 (L34 OR L47) AND PY=<2000

FILE 'ESBIOBASE'
             66 PY=<2000
L60           0 (L35 OR L48) AND PY=<2000

FILE 'BIOTECHNO'
        1407969 PY=<2000
L61          14 (L36 OR L49) AND PY=<2000

FILE 'WPIDS'
          10344 PY=<2000
                (PY=<2000)
L62           0 (L37 OR L50) AND PY=<2000

FILE 'CANCERLIT'
             0 PY=<2000
```

```
L63           0 (L38 OR L51) AND PY=<2000

TOTAL FOR ALL FILES
L64          14 (L39 OR L52) AND PY=<2000

=> fil medl
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                    33.76      50.47

FILE 'MEDLINE' ENTERED AT 11:35:42 ON 13 APR 2004

 => s (139 or 152) and py=<2000 range=2003000000,
         18129 PY=<2000
L65           0 (L27 OR L40) AND PY=<2000

=> log y
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                     0.38      50.85

STN INTERNATIONAL LOGOFF AT 11:35:59 ON 13 APR 2004
```